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AChE, acetylcholinesterase

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AGE, aged garlic extract

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Benzo[a]pyrene; Chrysene; 2,3,7,8-Tetrachlorodibenzo-p-dioxin; Immunosuppression; CYP1A induction, **105**, 375

Cytochrome P450; Diaminonaphthalenes; Mutagenicity; Ames test; CYP1A, **118**, 115

Dioxins; Risk assessment, **102**, 115

Glucocorticoid; TCDD; Dioxin; Palate, **105**, 365

AhR, aryl hydrocarbon receptor

DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny, **128**, 151

Air pollutants

Inflammation; Reactive oxygen species; Polymorphonuclear leukocytes; Particles, **120**, 185

Antigen; Asthma; Allergy; Immunity, **105**, 335

Air pollution

Acid aerosols; Ozone; Morphometry; Collagen; Lung, **116**, 133

Chemical mixtures; Epidemiology, **105**, 307

Particulate pollution; Respiratory disease, **111**, 149

Risk assessment; Chemical mixtures, **105**, 315

Air quality standard

Genotoxic carcinogen; 1,3-Butadiene, **113**, 221

Airborne

Analysis; Colophony; Gravimetric; Rosin; Sensitization, **111**, 225

Aircraft

Fires; Smoke; Toxicity; Behaviour; Tenability, **115**, 25

Aircraft fire safety

Flashover; Toxic gases; Full-scale fire tests; Survivability, **115**, 79

Aircraft survivability

Survival model; Toxicity model; Fractional effective dose; Inhalation toxicity, **115**, 167

Airway

Lung; Pulmonary; Eicosanoids; Leukotrienes; Inflammation; Pollutants, **114**, 187

Toluene diisocyanate; Hyperreactivity; Methacholine; Epithelium; Smooth muscle; Perfused trachea; Guinea-pig; Occupational asthma; Irritant; Capsaicin, **124**, 83

Airway hyperresponsiveness

Toluene diisocyanate; Tachykinins; Neutral endopeptidase; Guinea pig, **116**, 17

Airway inflammation

Airway resistance; Surfactant dysfunction; Asthma, **125**, 21

Immunoglobulin; Mice strain differences; Diesel exhaust particles, **122**, 183

Airway resistance

Airway inflammation; Surfactant dysfunction; Asthma, **125**, 21

Airway segments

Rats; Arachidonic acid; Eicosanoids; A23187, **100**, 111

Al, aluminum

Transport; Monocarboxylate transporter; Microdialysis; Blood–brain barrier; Aluminum citrate; BBR, brain-to-blood ratio; MD, microdialysis; MCT, monocarboxylate transporter; FCCP, *p*-(trifluoromethoxy)phenylhydrazone; 4-TMA-AP, 4-trimethylammonium-antipyrine, **127**, 59

Alachlor

Chlordane; Endrin; Chlorpyrifos; Fenthion; Sp rague Dawley rats; PC-12 cells; Reactive oxygen species; Lipid peroxidation; Chemiluminescence; DNA damage; Lactate dehydrogenase, **104**, 129

Endrin; Chlordane; Chlorpyrifos; Fenthion; Heat shock (stress) proteins; HSP89→; HSP89β; Sprague–Dawley rats; Liver; Brain; Lungs; PC-12 cells, **112**, 57

Alanine aminotransferase

Lactate dehydrogenase; Glycogen (glucose); Toxicity; Hepatocytes; Paracetamol (acetaminophen); Metallothionein, **125**, 131

Alcohol

Ethanol; Acetaldehyde; Nuclear biotransformation; Free radicals, **129**, 137

Aldehyde

Aldehyde dehydrogenase; Trichloroethylene; Methanol; Cytochrome P450, **132**, 9

Aldehyde dehydrogenase

Aldehyde; Trichloroethylene; Methanol; Cytochrome P450, **132**, 9

Aldolase

5-Pentachlorobiphenyl (PCB 126); rat liver; Gluconeogenesis; inhibition; Polychlorinated biphenyl (PCB); Amino acid sequence (peptide mapping), **116**, 193

Alkaline elution

DNA damage; Risk assessment; Chemical carcinogenesis; 2-Dimethlyhydrazine; Dose-response, **114**, 113

Allergens

Irritants; Cytokines; In vitro; Keratinocytes; Contact dermatitis, **129**, 193

Allergic asthma

Pulmonary hypersensitivity; Konjac gum; Yam flour; Konjac flour, **124**, 115

Allergy

Animal models; Hypersensitivity reactions; Immunotoxicity evaluation; Medicinal products, **129**, 27

Asthma; Antigen; Air pollutants;Immunity, **105**, 335

Distribution; Inhalation; Autoradiography; Hexahydrophthalic anhydride, **134**, 153

Epidemiology; Immunotoxicity; Field studies; Immunomodulation, **129**, 37

Milk; Saponin; Intestine; Permeability; Sensitisation, **117**, 219

Allometric scaling

Mechanistic models; Cross-species extrapolation; Dosimetry; Pharmacokinetics, **102**, 95

Alloxan

Metallothionein; Zinc; Pancreas; Exocrine; Islets, **132**, 33

Allyl alcohol

2-Propen-1-ol; Dithiothreitol; Pyridine nucleotide; Isolated rat hepatocyte, **106**, 85

Allylamine

β-Aminopropionitrile; Aorta; Heart; Lathyrism; Lysyl oxidase; Medial injury; Rat; Semicarbazide-sensitive amine oxidase; Vascular toxicity, **138**, 137

β-aminopropionitrile; Phenelzine; Semicarbazide; l-Cysteine; Aortic smooth muscle; Vascular media, **125**, 107

ALT, alanine aminotransferase

AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury, **126**, 55

AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP-2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen, **128**, 53

BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-depentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract, **126**, 213

ALT=L-alanine aminotransferase

HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT=L-serine dehydratase; TAT=L-tyrosine aminotransferase; 3-Methylcholanthrene; Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital; HC=hydrocortisone acetate; TCDD= 2,3,7,8-tetrachlorodibenzo-*p*-dioxin, **126**, 127

Altered hepatic foci

Apoptosis; Cell proliferation; Promotion; Initiation, **102**, 141

Aluminium hydroxide

Diesel exhaust particles; Hu-PBL-SCID mice; IgE, **128**, 219

Aluminum

Aging; Chelating agents; Rats; Tissue distribution; Urinary excretion, **137**, 161

Bile; Bile acids; Liver; Rats, **109**, 101

Ga-67; Anemia; Aluminum lactate; Iron gluconate, **100**, 1

Mice; Lactation; Milk; Iron; Manganese, **109**, 111

Rats; Aging; Tissue distribution; Urinary excretion, **116**, 1

Silver; Arsenic; Development; Metal; Preimplantation embryo; Vanadium; Lead; Zinc; Copper; Manganese; Iron; Cadmium; Mercury; Chromium, **116**, 123

Toxicokinetics; Citrate; Gastrointestinal absorption; Rats, **126**, 115

Aluminum citrate

Blood–brain barrier; Microdialysis; Monocarboxylate transporter; Transport; Al, aluminum; BBR, brain-to-blood ratio; MD, microdialysis; MCT, monocarboxylate transporter; FCCP, *p*-(trifluoromethoxy)phenylhydrazone; 4-TMA-AP, 4-trimethylammonium-antipyrine, **127**, 59

Monocarboxylic acid transporter; Blood-brain barrier; Microdialysis; Transport, **120**, 89

Aluminum lactate

Anemia; Ga-67; Aluminum; Iron gluconate, **100**, 1

Aluminum neurotoxicity

Neurofilament; Phosphorylation; Phosphatase; Motor neuron disease, **108**, 17

Alveolar fibrosis

Lung slices; Cadmium; Transforming growth factor-β1; λ-Carrageenan, **127**, 157

Alveolar macrophages

Amiodarone; Phospholipidosis, **106**, 139

3-Carene; Dose-dependent relationship; Cell viability; Morphology, **120**, 99

Ames assay

Mutagenesis; Toxicological mechanisms; Biologically based dose response models; Quantitative risk assessment; Carcinogenesis; Multi-stage model; Two-stage clonal expansion model; Developmental toxicity; Dirichlet-multinomial model; Physiologically based pharmacokinetics; Receptor-binding, **102**, 53

Ames test

Mutagenicity; Ah receptor; Cytochrome P450; Diaminonaphthalenes; CYP1A, **118**, 115

Amino acid sequence (peptide mapping)

Polychlorinated biphenyl (PCB); inhibition; Gluconeogenesis; rat liver; Aldolase; 5-Pentachlorobiphenyl (PCB 126) **116**, 193

Amino acid transport

Nephrotoxicity; Thallium sulfate; Kidney; Ontogeny; Rats, **106**, 229

Amino acids

Ammonia; Liver dysfunction; Liver perfusion; Thioacetamide (TAA); Ureagenesis, **135**, 21

Liver cirrhosis; Thioacetamide (TAA); Transaminases; Threonine deaminase; Glutamate dehydrogenase, **106**, 197

Pair-fed; Nutritional status; Liver cirrhosis; Thioacetamide; Net uptake, **132**, 155

Aminobenzotriazole

Apoptosis; Proliferation; Hepatotoxicity; Liver; B6C-3F1 mouse; Furan; Biotransformation, **118**, 195

4-Aminobiphenyl

Hemoglobin adducts; Tobacco smoke; Maternal blood; Fetal blood, **107**, 209

δ-aminolevulinate dehydratase

Lead acetate; Mercury chloride; Brain development; Postnatal development, **100**, 27

Lead poisoning; Mother; Newborn; Toxicological threshold; Epidemiology, **134**, 143

Aminophenols

Halogenated hydrocarbons; Nephrotoxicity; Rats; Aniline compounds, **108**, 109

Nephrotoxicity; Halogenated hydrocarbons; Rats, **110**, 47

β-Aminopropionitrile

Allylamine; Phenelzine; Semicarbazide; l-Cysteine; Aortic smooth muscle; Vascular media, **125**, 107

Allylamine; Aorta; Heart; Lathyrism; Lysyl oxidase; Medial injury; Rat; Semicarbazide-sensitive amine oxidase; Vascular toxicity, **138**, 137

Amiodarone

Alveolar macrophage; Phospholipidosis, **106**, 139

Carbonmonoxide diffusing capacity; Hydroxyproline; Collagen; Antiarrhythmic, **110**, 95

Lung; Fibrosis; Pulmonary toxicity; Vitamin E; Dietary supplementation, **133**, 75

Ammonia

Amino acids; Liver dysfunction; Liver perfusion; Thioacetamide (TAA); Ureagenesis, **135**, 21

Amyloidosis

Syrian hamster; Necrosis induction; Cadmium; Testicular tumor, **126**, 173

Anaesthetic-like

Toxicity; Opioids; Tetrahymena pyriformis; Hydrophobicity; Partition coefficient, **117**, 35

Analgesic

Paracetamol; ATP levels; Cell injury; Rat liver slices; Glycolysis; Cell protection, **108**, 175

Paracetamol; ATP levels; Fructose; Cell injury; Rat liver slices; Cell protection, **107**, 177

Paracetamol; NAPQI; Liver injury; Adenosine triphosphate levels, **104**, 91

Analysis

Airborne; Colophony; Gravimetric; Rosin; Sensitization, **111**, 225

Analysis of covariance

Multivariate analysis; Organ weight; Statistical power; Toxicity studies, **136**, 67

Anaphylaxis

Antigenic potential; β-Lactam antibiotic; Guinea pigs; Maximization test, **123**, 147

ANCA

Drug-induced lupus; Anti-myeloperoxidase antibodies; Propylthiouracil; Taurine, **114**, 155

And→-PKC

Calcium; Hippocampal neurons; 2,3,7,8-TCDD, **112**, 19

Anemia

Ga-67; Aluminum; Aluminum lactate; Iron gluconate, **100**, 1

Hepatocellular necrosis; Inhalation toxicology; Butadiene; Chloroprene; Olfactory epithelial degeneration, **108**, 79

Anesthetics

Carbon tetrachloride; Chloroform; Dechlorination, **114**, 147

Aniline

Dapsone; Methaemoglobin, **117**, 1

Aniline compounds

Rats; Aminophenols; Halogenated hydrocarbons; Nephrotoxicity, **108**, 109

Aniline hydroxylase

mRNAs; Cytochrome P450 2E1; Cytochrome P450 1A2; Cytochrome P450 reductase; Cytochrome P450; Recombinant interleukin-1α; Benzphetamine N-demethylase; 7-ethoxycoumarin O-deethylase, **114**, 37

Animal models

Allergy; Hypersensitivity reactions; Immunotoxicity evaluation; Medicinal products, **129**, 27

Autoimmune disease; Immunotoxicology, **119**, 29

Autoimmunity; Popliteal lymph node assay, **119**, 45

Behavioral tests; Neurobehavioral and neuromolecular batteries; Risk assessment; Pharmacokinetic model, **115**, 107

Neuralpotentiation; Behavioral sensitization; Neuralsensitization; Kindling; Multiple Chemical Sensitivity (MCS), **111**, 87

Sulfur mustard; Inflammation; Rabbits, **120**, 105

Xenobiotics; Autoimmune disease; Autoimmune responses, **119**, 1

Animal model of MCS

Organophosphate DFP; FSL rats; Human depressives; Cholinergic supersensitivity, **111**, 119

ANOVA, one-way analysis of variance

CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid), **128**, 53

ANP, atrial natriuretic peptide

Cardiovascular toxicity; Plasma ANP; Norcocaine; Cocaine; NT-ANP, N-terminal peptide of pro ANP; IR-ANP, immunoreactive ANP; IR-NT-ANP, immunoreactive N-terminal ANP, **128**, 101

Antagonism

Additivity; Synergism; Carcinogen; Promotion; Interaction, **105**, 121

Synergism; Departures from additivity; Response surface; Contour of constant response; Interaction index; Isobologram, **105**, 181

Anthocyanin

Liver; Carbon tetrachloride; Hepatotoxicity, **131**, 93

Anthracycline antibiotics

Daunomycin; Lipid peroxidation; Malondialdehyde; Heart; Antioxidant enzymes, **126**, 83

Antiarrhythmic

Amiodarone; Carbonmonoxide diffusing capacity; Hydroxyproline; Collagen, **110**, 95

Antibacterial effects

Cytotoxicity; Tea Tree oil; *O*-methylpodocarpic acid; Podocarpic acid; Dehydroabietic acid; Resin acids; Oleoresin; *S. aureus*; Epithelial cells; Fibroblasts; Neutral red assay, **107**, 99

Antibody

E. coli; Human CYP; Heterologous expression; Xenobiotic; Metabolism, **106**, 207

Antibody production

Macrophage phagocytosis; Immunotoxicology; Pentachlorophenol; Lymphocyte blastogenesis; Lymphocyte cell surface antigene; Immune compensation, **125**, 141

Antibody response

Hepatocytes; Immunosuppression; Lymphocytes; 2-Methoxyacetaldehyde; 2-Methoxyacetic acid; 2-Methoxyethanol; Rats; Mice, **123**, 227

Antiestrogenic

Endocrine-disruptors; Polycyclic aromatic hydrocarbons; MCF-7 cells; Estrogen receptor, **133**, 115

Antifolates

teratogenicity; Dihydrofolate reductase; Kinetic modelling; Simulation; Thymidylate synthase, **102**, 197

Antifungal agent

D0870; QT prolongation; Sudden death; TdP; Dogs, **132**, 187

Antigen

Asthma; Allergy; Air pollutants;Immunity, **105**, 335

Antigen presenting cell

Trifluoroacetylated-adduct; Kupffer cell; Immunochemistry; Hepatotoxicity; Halothane (2-bromo-2-chloro-1,1,1-trifluoroethane), **120**, 119

Antigenic potential

β-Lactam antibiotic; Guinea pigs; Anaphylaxis; Maximization test, **123**, 147

Antimitosis

Colchicine; 1,2-Dichlorobenzene (o-DCB); Tissue repair; Ultimate outcome of toxicity, **120**, 79

Antimony

Cardiac myocytes; Thiol; Pyruvate dehydrogenase; Glutathione; Adenine nucleotides, **119**, 203

Antimony trichloride

Delayed apoptosis; DNA damage; Calcium accumulation, **129**, 113

Anti-myeloperoxidase antibodies

Propylthiouracil; Drug-induced lupus; ANCA; Taurine, **114**, 155

Antioxidant

Hepatocytes; ATP depletion; Mitochondrial dysfunction; Cytotoxicity; Propyl gallate, **114**, 135

Antioxidant depletion

Lipid peroxidation; Hemoglobin-induced injury; High energy impulse noise; Blast overpressure; Prooxidants; Methemoglobin; Oxoferryl hemoglobin, **121**, 81

Antioxidant enzymes

Carbonyl iron; Dietary; α-tocopherol; Ubiquinols, **124**, 73

Heart; Malondialdehyde; Lipid peroxidation; Anthracycline antibiotics; Daunomycin, **126**, 83

Lipid peroxidation; Triiodothyronine; Thyroxine; monodeiodinase; Type-I iodothyronine 5′; Lead; Tocopherol acetate, **124**, 203

Antioxidant response element

Oxidative stress; Lead; Glutathione; Glutathione *S*-transferase, **128**, 191

Antioxidant systems

Metallothionein; Oxidative stress; Cadmium; Zinc; Lipopolysaccharide; α-Hederin, **104**, 25

Antioxidants

Apoptosis; Cerebellar granule cells; EPC-K1; Lipid peroxidation; Nitric oxide, **134**, 117

Enhanced hepatotoxicity; Carbon tetrachloride; Induction; CYP2E1; Methanol, **112**, 131

Free radicals; Lead intoxication; Neurotoxicity, **135**, 77

Glutathione; Peroxides; detoxication of; Detoxication; role of glutathione in; Apoptosis; redox regulation of; Blood plasma; GSH content in; Demographic factors affecting GSH; Diet; GSH content in, **105**, 267

Oxidative stress; Hepatic toxicity; Cyclosporine, **123**, 197

U74389G; DPPD; Benomyl; Methyl 1-(butylcarbamoyl)-2-benzimidazole-carbamate; Lipid peroxidation; Glutathione; Oxidative stress, **116**, 177

Vitamin E; Reproduction; Testes oxidation, **132**, 179

Antisense

Oligonucleotide; Phosphorothioate; ICAM-1; Toxicology; Monkey, **120**, 145

Phosphorothioate deoxyoligonucleotide; Toxicology; Rat, **116**, 77

Antitumor activity

Ascites carcinoma cells; Biochemical studies; LD_{50}; Neurotoxicity; Sistrurus Malarius Barbouri crude venom, **137**, 81

Antiwithdrawal activity

Otilonium bromide; Rats; Opioid withdrawal syndrome; Calcium antagonist, **122**, 23

Anxiolytic

Glycogen; Mitochondria; Panadiplon; Hypoxia; Hepatocyte, **108**, 9

Aorta

Allylamine; β-Aminopropionitrile; Heart; Lathyrism; Lysyl oxidase; Medial injury; Rat; Semicarbazide-sensitive amine oxidase; Vascular toxicity, **138**, 137

Aortic smooth muscle

l-Cysteine; Semicarbazide; Phenelzine; β-aminopropionitrile; Allylamine; Vascular media, **125**, 107

AP, 2-aminophenantherene

AF, 2-aminofluorene; PAH, polycyclic aromatic hydrocarbons; GST, glutathione *S*-transferase; Glutathione *S*-transferase (class Mu); Lymphocytes; DNA adduct formation; Cigarette smoking; ABP, 4-aminobiphenyl; BP, benzo(*a*)pyrene, **126**, 155

AP-1

Transforming growth factor-β; Eicosanoids; Peroxisome; Ciprofibrate, **131**, 99

Apamin

Dendrotoxin; Potassium ion channel; Toxicity; Rat, **104**, 47

APAP, acetaminophen

ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione, **128**, 53

Protection; Chloroform; Carbon tetrachloride; Bromobenzene; Hepatotoxicity; Clofibrate; BrB, bromobenzene; BUN, blood urea nitrogen; CFB, clofibrate; CCl_4, carbon tetrachloride; $CHCl_3$, chloroform; SDH, sorbitol dehydrogenase, **127**, 1

Apoptosis

T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus, **128**, 151

Antioxidants; Cerebellar granule cells; EPC-K1; Lipid peroxidation; Nitric oxide, **134**, 117

Bone marrow; DNA fragmentation; Gamma rays; PFC response, **135**, 69

Cadmium; DNA fragmentation; Heavy metals; Immune system; Immunotoxicity, **128**, 143

Cadmium; Programmed cell death; DNA fragmentation; M*i*-ADMS; Testes (rat), **107**, 1

Cadmium; Selenium; Programmed cell death; DNA fragmentation; Testes (rat), **116**, 169

Cell proliferation; Promotion; Initiation; Altered hepatic foci, **102**, 141

DNA fragmentation; Metallothionein; Thymus, **134**, 39

DNA fragmentation; Testes; Deltamethrin; Nitric oxide; Nitric oxide synthase inhibitor, **132**, 1

Fusarenon-X; Mouse; Thymocyte; Mycotoxin; Immunotoxicity; Flow cytometry, **127**, 195

Immunotoxicity; TCDD; T cells; Proliferation, **129**, 211

Lung epithelial cell; Cadmium; Oxidative stress response; Gene expression; Glutathione; Glutathione S-transferase; γ-Glutamylcysteine synthetase; Redox sensitive transcription factors, **133**, 43

Menadione; Cardiotoxicity; Renal toxicity, **124**, 193

Mercury; Mitochondrial membrane permeability transition; Glutathione, **124**, 211

Proliferation; Hepatotoxicity; Liver; B6C3F1 mouse; Furan; Aminobenzotriazole; Biotransformation, **118**, 195

Proliferation; Inhalation; Mouse; Benzene; Immunotoxicity; Lymphocytes, **118**, 137

Role of glutathione in; Detoxication; detoxication of; Peroxides; Antioxidants; Glutathione; redox regulation of; Blood plasma; GSH content in; Demographic factors affecting GSH; Diet; GSH content in, **105**, 267

Semiconductors; Necrosis; Arsenic; Indium, **118**, 129

Thymocyte; Thymus; Cell death; Leydig cell; Ethylene dimethanesulphonate, **120**, 19

Toxic Oil Syndrome; Food-poisoning; Autoimmunity; Eosinophilia-Myalgia Syndrome, **118**, 71

Apoptosis resistance

Cantharidic acid; Okadaic acid; Doxorubicin; LoVoDx cells; LoVo, **134**, 109

Applications

Methods; Epitope mapping, **119**, 77

Arachidonic acid

Eicosanoids; Rats; Airway segments; A23187, **100**, 111

ARDS

Cell permeability; Cytotoxicity; Membrane fluidity; Tight junction; Tricyclic antidepressants, **136**, 1

L-arg

Lead; L-NAME; Nephrotoxicity; Nitric oxide, **132**, 119

Aromatic amines

Bioactivation; Chemical carcinogenesis; Cytochrome P450; Mutagenicity, **134**, 127

Methemoglobin; Hydroxylamines; 5-dichloroaniline, **118**, 23

Arsenic

Benzene; Carcinogenesis; Chemical mixtures; Chloroform; Chromium; Hazardous waste; Lead; Liver; Phenol; Trichloroethylene, **137**, 137

Cadmium; Toxicity; Sequence of exposure; Rat, **116**, 89

Development; Metal; Preimplantation embryo; Silver; Aluminum; Vanadium; Lead; Zinc; Copper; Manganese; Iron; Cadmium; Mercury; Chromium, **116**, 123

Interindividual variability; Urinary metabolites; C57 BL/6J mice, **103**, 105

Necrosis; Apoptosis; Semiconductors; Indium, **118**, 129

Parathion; Acetylcholinesterase; Monooxygenases; CYP2B1; CYP2B2, **116**, 59

Arsenical

Arsenite; Arsenosugar; Cytotoxicity; Macrophage, **122**, 205

Arsenite

Arsenosugar; Arsenical; Cytotoxicity; Macrophage, **122**, 205

Glutathione peroxidase; Catalase; xrs-5; -6 cells, **121**, 229

Arsenosugar

Arsenite; Arsenical; Cytotoxicity; Macrophage, **122**, 205

Arteriosclerotic plaque

Butadiene; Tobacco smoke; Cockerels, **113**, 351

Arteritis

Inflammation; Necrosis; Myocardium; Rat; Aging; Minoxidil; Hemorrhage, **110**, 71

Artificial intelligence

Expert systems; Toxicity; Computer systems; QSAR, **119**, 213

Aryl hydrocarbon hydroxylase induction

Cytochrome P450; Cytotoxicity; Beddings, **122**, 73

Ascites carcinoma cells

Antitumor activity; Biochemical studies; LD_{50}; Neurotoxicity; Sistrurus Malarius Barbouri crude venom, **137**, 81

Ascomycin

Immunosuppressants; Tacrolimus; FK506; Pharmacokinetics; Immunophilins; Nephrotoxicity, **125**, 169

Ascorbic acid

Ca-Na_2-EDT acid; DMSA; Pb^{2+}; *Paramecium*; Calcium channels; Lead toxicity, **108**, 165

Aspartame

Dipeptide transport; Kidney; Collecting duct; MDCK cells; Ochratoxin A; Organic anion transport; BCECF; Phorbol ester; EIPA, **131**, 193

Renal cell lines; Protein binding; Kidney; Ochratoxin A, **135**, 1

Asphyxiants

Fire gases; Smoke toxicity; Combustion toxicology; Irritants, **115**, 7

AST, asparatate aminotransferase

CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase, **126**, 55

G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase, **128**, 53

Asthma

Allergy; Antigen; Air pollutants;Immunity, **105**, 335

Surfactant dysfunction; Airway inflammation; Airway resistance, **125**, 21

Atherosclerosis

Cholesterol; Cytochrome P450; Enzyme inhibition; Glutathione *S*-transferase, **126**, 179

Vascular endothelial cell; Lead; Proliferation; Fibroblast growth factor, **117**, 193

ATP depletion

Cytotoxicity; Cardiomyocytes; Doxorubicin; Daunorubicin; Metabolism, **104**, 1

Hepatocytes; Fructose; Protection; Hydrazine, **120**, 225

Mitochondrial dysfunction; Cytotoxicity; Propyl gallate; Hepatocytes; Antioxidant, **114**, 135

ATP levels

Analgesic; Paracetamol; Cell injury; Rat liver slices; Glycolysis; Cell protection, **108**, 175

Analgesic; Paracetamol; Fructose; Cell injury; Rat liver slices; Cell protection, **107**, 177

ATPase

Glycolysis; Respiratory chain; Reactive oxygen species; Ortho-phenanthroline, **110**, 85

GTPase; Eukaryotic ribosomes; *Boletus satanas*; Bolesatine; Mushroom toxicity, **100**, 51

Intestine; Kidney; Gills; Chromium (VI); Fish, **112**, 237

Atrazine

Immunoassay; Rats; Tissue Samples, **127**, 11

Atrial natriuretic peptide

Cisplatin; Nephrotoxicity; Platinum, **106**, 159

Atropine

HI-6; Acute phase response, **106**, 11

HI-6; Soman; Benactyzine; Biperiden; Acetylcholinesterase; Corticosterone; Tyrosine aminotransferase; Rat, **116**, 147

Audiometry

Histology; Auditory injury; Hearing loss; Blast overpressure, **121**, 29

Auditory injury

Hearing loss; Blast overpressure; Histology; Audiometry, **121**, 29

Autoantibody

Toxicology; Laboratory animal; Immunotoxicology, **119**, 51

Autoimmune disease

Autoimmune responses; Xenobiotics; Animal models, **119**, 1

Immunotoxicology; Animal models, **119**, 29

Autoimmune responses

Autoimmune disease; Xenobiotics; Animal models, **119**, 1

Autoimmunity

Food-poisoning; Apoptosis; Toxic Oil Syndrome; Eosinophilia-Myalgia Syndrome, **118**, 71

Popliteal lymph node assay; Animal models, **119**, 45

Side-effects; GM-CSF; G-CSF; Interleukin-2; Interferons; Cytokines; Immune disorders, **105**, 31

Autoradiography

Hexahydrophthalic anhydride; Inhalation; Distribution; Allergy, **134**, 153

Axonopathy

Visual; Brain injury; Blast overpressure; Rats, **121**, 41

5-AZA-2′-deoxycytidine (DNA demethylating agent)

Limb defects; Teratogenicity; Swiss Webster (CD-1) mice; Intraperitoneal injection, **112**, 37

Azathioprine

Toxicity; Immunotoxicity; International Collaborative Immunotoxicity Study; Cyclosporin A, **125**, 183

Azole derivatives

Flavin-containing monooxygenases; Hepatocytes; Hepatotoxicity; Ketoconazole; Metabolite; Methimazole; N-Deacetyl ketoconazole; n-Octylamine; Primary cultures, **117**, 123

Azospirillum brasilense

2,4-D; *Azospirillum*-maize attachment, **107**, 9

***Azospirillum*-maize attachment**

Azospirillum brasilense; 2,4-D, **107**, 9

B

B cells

p-Chloronitrobenzene; Macrophages; NK; Nucleated erythrocytes; T cells, **137**, 35

B6C3F1 mice

F344/N rats; Toxicology; Carcinogenesis; Ritalin; Methylphenidate hydrochloride, **103**, 77

PAHs; Immunotoxicity, **109**, 31

B6C3F1 mouse

Furan; Liver; Hepatotoxicity; Proliferation; Apoptosis; Aminobenzotriazole; Biotransformation, **118**, 195

Bacillus amyloliquefaciens ribonuclease (barnase)

Bacillus intermedius RNase (binase); Photoinactivated binase; His102Gln barnase; Isolated perfused rat kidney; Nephrotoxicity, **120**, 55

Bacillus intermedius RNase (binase)

Bacillus amyloliquefaciens ribonuclease (barnase); Photoinactivated binase; His102Gln barnase; Isolated perfused rat kidney; Nephrotoxicity, **120**, 55

BALB/c mice

Local lymph node assay (LLNA); Potassium dichromate; Nickel sulphate; Cobalt chloride; Beryllium sulphate; Disodium hexachloroplatinate; Oxazolone; Toluene diisocyanate, **120**, 65

Barotrauma

Treatment; Blast overpressure; Contusion; Pulmonary, **121**, 105

BB, bromobenzene

DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-depentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase, **126**, 213

BBDR

Default assumptions; Uncertainty; PBPK; risk assessment; science policy, **102**, 3

BBR, brain-to-blood ratio

Al, aluminum; Transport; Monocarboxylate transporter; Microdialysis; Blood–brain barrier; Aluminum citrate; MD, microdialysis; MCT, monocarboxylate transporter; FCCP, *p*-(trifluoromethoxy)phenylhydrazone; 4-TMA-AP, 4-trimethylammonium-antipyrine, **127**, 59

BCECF

Organic anion transport; Aspartame; Dipeptide transport; Kidney; Collecting duct; MDCK cells; Ochratoxin A; Phorbol ester; EIPA, **131**, 193

Beddings

Aryl hydrocarbon hydroxylase induction; Cytochrome P450; Cytotoxicity, **122**, 73

Behavioral sensitization

Neuralsensitization; Kindling; Multiple Chemical Sensitivity (MCS); Neuralpotentiation; Animal models, **111**, 87

Behavioral tests

Neurobehavioral and neuromolecular batteries; Animal models; Risk assessment; Pharmacokinetic model, **115**, 107

Behavioral thermoregulation

Temperature gradient; Temperature regulation; Motor activity; Hypothermia; Hyperthermia; Fever, **124**, 165

Behaviour

Toxicity; Smoke; Fires; Aircraft; Tenability, **115**, 25

Behavioural incapacitation

HI-6; Soman; Pharmacokinetics; Marmosets; Acetylcholinesterase; Repeated dose; Guinea pigs, **112**, 183

Benactyzine

Atropine; HI-6; Soman; Biperiden; Acetylcholinesterase; Corticosterone; Tyrosine aminotransferase; Rat, **116**, 147

HI-6; Cholinergic–anticholinergic pretreatment; Soman; Respiration; Circulation; Rat; ACh, acetylcholine; AChE, acetylcholinesterase; BNZ, benactyzine; ECG, electrocardiogram; MAP, mean arterial pressure; MRV, minute respiratory volume; OP, organophosphate; RR, respiratory rate; THP, trihexyphenidyle, **128**, 1

Benchmark

Dose-response; Relational database, **114**, 81

Benomyl

Methyl 1-(butylcarbamoyl)-2-benzimidazole-carbamate; DPPD; U74389G; Antioxidants; Lipid peroxidation; Glutathione; Oxidative stress, **116**, 177

Benzene

Arsenic; Carcinogenesis; Chemical mixtures; Chloroform; Chromium; Hazardous waste; Lead; Liver; Phenol; Trichloroethylene, **137**, 137

Hydroquinone; Benzoquinone; Glutathionyl hydroquinone; Iron; Bleomycin; DNA degradation; Thiobarbituric acid reactive product, **106**, 49

Immunosuppression; Immunotoxicity; ELISA; Flow cytometry; Immunolabeling, **119**, 227

Immunotoxicity; Mouse; Inhalation; Proliferation; Apoptosis; Lymphocytes, **118**, 137

Phenol; Hydroquinone; Competitive inhibition, **105**, 225

Pyridine; Lung; Liver; Microsomes; Metabolism, **104**, 53

Benzo(a)pyrene-7

Di(2-ethylhexyl)phthalate (DEHP); Peroxisome proliferators; 8-dihydrodiol-9; 10-epoxide (BPDE); Glutathione S-transferase; Cytochrome P-450 (CYP); Silvex, **122**, 81

Benzo[a]pyrene

Ah receptor; Chrysene; 2,3,7,8-Tetrachlorodibenzo-p-dioxin; Immunosuppression; CYP1A induction, **105**, 375

Hamster; Buccal mucosa; Receptor; Epidermal growth factor; Nicotine, **107**, 31

Benzodiazepine

Ro 15-4513; Ethanol; Cocaine; Cocaethylene; Lethality; Seizure, **117**, 171

Benzodioxoles

Methylenedioxyphenyl compounds; Induction; Inhibition; Cytochrome P450; Synergists; Biphasic response, **105**, 211

Benzoquinone

Hydroquinone; Benzene; Glutathionyl hydroquinone; Iron; Bleomycin; DNA degradation; Thiobarbituric acid reactive product, **106**, 49

Benzoyl peroxide

Free radicals; Keratinocytes; Lipid peroxidation; Neutral red assay; Vitamin E, **106**, 187

Benzphetamine N-demethylase

Aniline hydroxylase; mRNAs; Cytochrome P450 2E1; Cytochrome P450 1A2; Cytochrome P450 reductase; Cytochrome P450; Recombinant interleukin-1α; 7-ethoxycoumarin O-deethylase, **114**, 37

Beryllium

Blood lymphocytes; Blood monocytes; Cell migration; Chronic beryllium disease; Peripheral blood mononuclear cells, **138**, 155

Health; Surveillance; Sensitization; Exposure, **111**, 213

Beryllium sulphate

Cobalt chloride; Nickel sulphate; Potassium dichromate; Local lymph node assay (LLNA); BALB/c mice; Disodium hexachloroplatinate; Oxazolone; Toluene diisocyanate, **120**, 65

BHA

BHT; Flavonoids; Co-administration; Mutagens; P450, **122**, 61

BHT, 2,6-di-tert-butyl-4-methylphenol

BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, ox dized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate, **128**, 113

BI-6

HI-6; Methoxime; Obidoxime; Pralidoxime; Soman; RaL, **132**, 111

Bifonazole

Clotrimazole; Cytochrome P4504A; Enzyme induction; Peroxisome proliferators, **106**, 19

Bile

Aluminum; Bile acids; Liver; Rats, **109**, 101

Bile duct toxicant

Taurine; Diaminodiphenylmethane; Hepatotoxicity; Protection, **122**, 193

Bile salts

Colchicine-induced hepatotoxicity, **121**, 127

Bile acids

Bile; Aluminum; Liver; Rats, **109**, 101

Biliary excretion

Long-Evans Cinnamon rat; Cadmium; Copper; Metallothionein, **108**, 1

Biliary excretion kinetics

1-Hydroxypyrene; Polycyclic aromatic hydrocarbons; Pyrene; Urinary excretion kinetics, **127**, 69

Biliary excretion of Cd, Cu and Zn

Eisaihyperbilirubinuric (EHB) rat; Glutathione and organic aniontransports, **112**, 87

Biliary excretion of Cu and Cd

Tetrathiomolybdate; Long-Evans Cinnamon (LEC) rats; Wilson disease, **120**, 47

Biliary excretion of inorganic Hg and glutathione

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Bilirubin

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Binding affinity

Dopamine receptor; Styrene; Xylene; [^{3}H]raclopride; Two-sites analysis; Neurotoxicity; Prolactin, **100**, 185

Bioactivating system

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Bioactivation

Aromatic amines; Chemical carcinogenesis; Cytochrome P450; Mutagenicity, **134**, 127

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Fungicides; Nephrotoxicity; Rats; Sulfation, **138**, 165

Fungicides; Rats; Nephrotoxicity; Sulfation, **123**, 1

Bioassay

Cytokines; Flow cytometry; Immunoassay; Immunohistochemistry; Molecular biology, **129**, 55

Biochemical studies

Ascites carcinoma cells; Antitumor activity; LD_{50}; Neurotoxicity; Sistrurus Malarius Barbouri crude venom, **137**, 81

Biologic effect

Clinical trials; Immunologic methods, **129**, 73

Biological marker

Biomarker; Environmental exposure; Exposure assessment; Health-risk estimation, **101**, 107

Cancer epidemiology; Epidemiological measure; Biological mechanism; Methodological issue, **101**, 93

Environmental carcinogen; Industrial region; Pollution; Molecular epidemiology; Central and Eastern Europe, **101**, 117

Environmental monitoring; Environmental exposure; Environmental pollution; Europe, **101**, 1

Validity criterion; Exposure; Chemical agent; Environmental epidemiology, **101**, 73

Biological mechanism

Epidemiological measure; Cancer epidemiology; Biological marker; Methodological issue, **101**, 93

Biological monitoring

hprt mutation; Butadiene; Human; Occupational health, **113**, 84

Toxicokinetics; Solvent; Metal; Biomarker stability, **101**, 65

Biological plausibility

Clinical significance; Susceptibility; Value-of-information model; Tennant-Ashby challenge; Interspecies differences, **102**, 23

Biological-derived medicines

Safety evaluation; Biotechnology-derived medicines, **105**, 59

Biologically based dose response models

Quantitative risk assessment; Toxicological mechanisms; Mutagenesis; Ames assay; Carcinogenesis; Multi-stage model; Two-stage clonal expansion model; Developmental toxicity; Dirichlet-multinomial model; Physiologically based pharmacokinetics; Receptor-binding, **102**, 53

Biologically-based dose-response

Developmental toxicity; Mechanistic modeling; Mechanisms; 5-FU; 5-fluorouracil, **102**, 207

Biologically-based dose-response models

Inhalation exposure; Risk assessment, **102**, 73

Biomarker

Adducts; Xenobiotic; Taurine; Creatine; NMR, **129**, 1

Biological marker; Environmental exposure; Exposure assessment; Health-risk estimation, **101**, 107

DNA adduct; Hemoglobin adduct; Non-malignant disease; Eosinophilic cationic protein, **101**, 99

Exposure; Organic substance; PCDD; PCDF; PCB; PBB; Ochratoxin A; PAH; Cooked food mutagen, **101**, 11

Human hair; Exposure assessment; Environmental pollutant; Toxic metal; Group diagnostics; Environmental epidemiology, **101**, 29

Biomarker exposure

Validation; Study design; Environmental epidemiology, **101**, 89

Biomarker stability

Metal; Solvent; Toxicokinetics; Biological monitoring, **101**, 65

Biomarkers

Cancer; Risk assessment; Adducts, **113**, 203

Chemoprevention; Colon cancer; Diet, **134**, 93

Immunosuppression; Immunotoxicology; Immunotoxicity testing; Man; Rodent, **129**, 13

Protein kinase C; Lymphocytes; Dioxin; Cytochrome P450 1A1, **124**, 39

Biomechanics

Injury; Blast overpressure; Modeling, **121**, 91

Biomonitor

Stressresponse; Caenorhabditiselegans; Captan; N-(trichloromethylthio)cyclohex-4-ene-1; 2-dicarboximide; Fungicide, **109**, 119

Biomonitoring

Butadiene; Haemoglobin; Adducts; Edman degradation, **113**, 112

Propylene oxide; Hemoglobin adducts; Rat; Toxicokinetics, **134**, 1

Urinary adduct; Fluorescence; Postlabelling; DNA immunoassay, **101**, 41

Biotechnology

rDNA-derived products; The new biologies; Toxicologic evaluation, **105**, 7

Biotechnology-derived medicines

Biological-derived medicines; Safety evaluation, **105**, 59

Biotechnology-derived products

Immunotoxicity assessment; Safety evaluation, **105**, 1

Biotransformation

Aminobenzotriazole; Apoptosis; Proliferation; Hepatotoxicity; Liver; B6C3F1 mouse; Furan, **118**, 195

Cyclophosphamide; Rat; Cytochrome P450; Liver, **112**, 141

Xenobiotics; Cytochrome P450 3A4; Human drug metabolism; Cytochrome P450, **104**, 1

Biperiden

Benactyzine; Atropine; HI-6; Soman; Acetylcholinesterase; Corticosterone; Tyrosine aminotransferase; Rat, **116**, 147

Biphasic response

Synergists; Cytochrome P450; Inhibition; Induction; Methylenedioxyphenyl compounds; Benzodioxoles, **105**, 211

Bis(tri-*n*-butyltin)oxide

Cyclosporin A; Dot blot hybridisation; FACS; Lymphocyte transformation test; RT-PCR, **135**, 49

5-bis-trifluoromethyl-2

CYP2B2; CYP2B1; CYP1A2; CYP1A1; Cytochrome P450; 2′,5′-dichlorobiphenyl, **120**, 197

Bitumen

Systemictoxicity; Rat; Dermal exposure, **109**, 129

Bladder cancer

Cell proliferation; Calculi; Saccharin; 2-Acetylaminofluorene; Risk assessment, **102**, 149

Blast overpressure

Axonopathy; Visual; Brain injury; Rats, **121**, 41

Blast overpressure

Hearing loss; Auditory injury; Histology; Audiometry, **121**, 29

High energy impulse noise; Hemoglobin-induced injury; Lipid peroxidation; Antioxidant depletion; Prooxidants; Methemoglobin; Oxoferryl hemoglobin, **121**, 81

High energy impulse noise; Lung injury; Oxidative stress; Free radicals, **121**, 1

Injury; Biomechanics; Modeling, **121**, 91

Neuropathology; Feeding; Exercise; Rats, **121**, 65

Primary blast injury; Pathology; Histology; Lung; Heart; Gastrointestinal tract; Brain, **121**, 17

Sheep; Lung injury; Exercise performance, **121**, 51

Treatment; Barotrauma; Contusion; Pulmonary, **121**, 105

Bleomycin

Iron; Glutathionyl hydroquinone; Benzoquinone; Hydroquinone; Benzene; DNA degradation; Thiobarbituric acid reactive product, **106**, 49

Blood

Cholinesterase inhibition; brain; Cholinesterase inhibition; Cholinesterase inhibitors; Carbamate pesticides; Organophosphate pesticides; Cholinesterase; Acetylcholinesterase; Cholinesterase inhibition; correlation; Cholinesterase inhibitors; risk assessment, **102**, 215

Blood lead level

β-Adrenoceptors; Heart lead level; Lead, **123**, 27

Blood lymphocytes

Beryllium; Blood monocytes; Cell migration; Chronic beryllium disease; Peripheral blood mononuclear cells, **138**, 155

Blood monocytes

Blood lymphocytes; Beryllium; Cell migration; Chronic beryllium disease; Peripheral blood mononuclear cells, **138**, 155

Blood plasma

redox regulation of; Apoptosis; role of glutathione in; Detoxication; detoxication of; Peroxides; Antioxidants; Glutathione; GSH content in; Demographic factors affecting GSH; Diet; GSH content in, **105**, 267

Blood–brain barrier

Aluminum citrate; Microdialysis; Monocarboxylate transporter; Transport; Al, aluminum; BBR, brain-to-blood ratio; MD, microdialysis; MCT, monocarboxylate transporter; FCCP, *p*-(trifluoromethoxy)phenylhydrazone; 4-TMA-AP, 4-trimethylammonium-antipyrine, **127**, 59

1,2-d ethyl-3-hydroxypyridin-4-one; 1,2-dimethyl-3-hydroxypyridin-4-one; 1-[Ethan-1′ol]-2-methyl-3-hydroxypyridin-4-one; 3-Hydroxypyridin-4-ones; Chelator; P20; CP40; CP94; EL1NEt; L1; Deferipro ne, **108**, 191

Monocarboxylic acid transporter; Aluminum citrate; Microdialysis; Transport, **120**, 89

BME, Basal Medium of Eagle

CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol, **128**, 113

BN rats

Xenobiotics; Mercury-induced autoimmunity; LEW rats; Laminin 1; IgG isotypes; RT6+ T lymphocytes, **125**, 215

BNZ, benactyzine

AChE, acetylcholinesterase; ACh, acetylcholine; Rat; Circulation; Respiration; Benactyzine; HI-6; Cholinergic–anticholinergic pretreatment; Soman; ECG, electrocardiogram; MAP, mean arterial pressure; MRV, minute respiratory volume; OP, organophosphate; RR, respiratory rate; THP, trihexyphenidyle, **128**, 1

Bolesatine

Boletus satanas; Eukaryotic ribosomes; GTPase; ATPase; Mushroom toxicity, **100**, 51

Mushroom; *Boletus satanas*; Toxic protein; Inhibition of protein synthesis; SP2/O cells; Thymic lymphosarcoma, **103**, 121

Boletus satanas

Bolesatine; Eukaryotic ribosomes; GTPase; ATPase; Mushroom toxicity, **100**, 51

Mushroom; Bolesatine; Toxic protein; Inhibition of protein synthesis; SP2/O cells; Thymic lymphosarcoma, **103**, 121

Bone density

Caloric restriction; Chronic exposure; Metallothionein; Cadmium; Nephrotoxicity; Osteotoxicity, **133**, 93

Bone loss

Cadmium; Pregnancy; Lactation; Ovariectomy; Nutrient-deficient diet; Itai-Itai disease, **119**, 103

Bone marrow

Apoptosis; DNA fragmentation; Gamma rays; PFC response, **135**, 69

Bootstrap

Additivity; Conservatism; Likelihood ratio; Monte Carlo; Multistage model, **105**, 199

Bovine

Embryo culture; In vitro fertilization; Oocyte maturation; Ethylene oxide, **108**, 33

BP, benzo(a)pyrene

ABP, 4-aminobiphenyl; AP, 2-aminophenantherene; AF, 2-aminofluorene; PAH, polycyclic aromatic hydrocarbons; GST, glutathione *S*-transferase; Glutathione *S*-transferase (class Mu); Lymphocytes; DNA adduct formation; Cigarette smoking, **126**, 155

BPMC

Physostigmine; Cholinesterase inhibitor; 2-sec-Butylphenyl methylcarbamate; PHC; Propoxur; Non-cholinergic; Cardiovascular, **117**, 163

Brain

Cholinesterase inhibition; Cholinesterase inhibitors; Carbamate pesticides; Organophosphate pesticides; Cholinesterase; Acetylcholinesterase; Cholinesterase inhibition; blood; Cholinesterase inhibition; correlation; Cholinesterase inhibitors; risk assessment, **102**, 215

Culture; Ochratoxin-A epimer; Ochratoxins; Retina; Chick; Fibroblast, **118**, 205

Gastrointestinal tract; Heart; Lung; Histology; Pathology; Primary blast injury; Blast overpressure, **121**, 17

Glutathione; Styrene; Ethanol, **106**, 115

Liver; Sprague–Dawley rats; HSP89β; HSP89→; Heat shock (stress) proteins; Fenthion; Chlorpyrifos; Chlordane; Endrin; Alachlor; Lungs; PC-12 cells, **112**, 57

Methylmercury; Tubulin tyrosination; Detyrosination, **122**, 171

Brain development

δ-aminolevulinate dehydratase; Lead acetate; Mercury chloride; Postnatal development, **100**, 27

Brain injury

Visual; Axonopathy; Blast overpressure; Rats, **121**, 41

Brain lead

Brain mercury; DMPS; Chelating agent; Dimaval®; 2,3-Dimercapto-1-propanesulfonate, **109**, 49

Brain mercury

DMPS; Brain lead; Chelating agent; Dimaval®; 2,3-Dimercapto-1-propanesulfonate, **109**, 49

Brathable gas (oxygen hoods)

Hopcalite filters; Challenge combustion atmospheres; Lung simulators; PPBE tests; Filter/oxygen mask, **115**, 41

BrB, bromobenzene

APAP, acetaminophen; Protection; Chloroform; Carbon tetrachloride; Bromobenzene; Hepatotoxicity; Clofibrate; BUN, blood urea nitrogen; CFB, clofibrate; CCl_4, carbon tetrachloride; $CHCl_3$, chloroform; SDH, sorbitol dehydrogenase, **127**, 1

Breathable gas (oxygen) hoods

Hopcalite filters; Challenge combustion atmospheres; Lung simulators; PPBE tests; Filter/oxygen mask, **115**, 63

Breathing

Respiratory particle deposition; Aerosol, **115**, 123

Brequinar

Cyclosporine; Immunosuppressant; Combination toxicity, **127**, 207

6-Bromo-6-deoxy-L-ascorbic acid

cis-Dichlorodiamineplatinum; Lipid peroxidation; Lysosomes; Sialic acid, **137**, 23

Bromobenzene

Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-depentylase; TBARS, thiobarbituric acid reacting substances, **126**, 213

Garlic; Hepatotoxicity; Glutathione; Liver slices, **132**, 215

Hepatotoxicity; Clofibrate; Carbon tetrachloride; Chloroform; Protection; APAP, acetaminophen; BrB, bromobenzene; BUN, blood urea nitrogen; CFB, clofibrate; CCl_4, carbon tetrachloride; $CHCl_3$, chloroform; SDH, sorbitol dehydrogenase, **127**, 1

Bromodichloromethane

Physiologically based modeling; Rates of metabolism; Water disinfection by-products, **124**, 141

2-Bromopropane

Distal latency; Electrophysiology; Histopathology; Inhalation exposure; Motor nerve conduction velocity; Peripheral neurotoxicity, **135**, 87

Bronchoalveolar lavage

Toluenediisocyanate; Hyperresponsiveness; Inflammation, **114**, 91

Bronchoalveolar lavage fluid

Histopathology; Rat; Inhalation; Nickel subsulfide, **103**, 9

Bronchoconstriction

Guinea pig; Lung; 3-Carene; Dermal sensitisation, **125**, 59

Brown adipose tissue

2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD); Liver; Deiodinases; Thyroid hormones, **114**, 199

Brown Norway rat

Gliosis; GFAP-positive cell; Purkinje cell loss; Mercury vapour, **104**, 83

Buccal mucosa

Receptor; Epidermal growth factor; Hamster; Benzo[*a*]pyrene; Nicotine, **107**, 31

BUN, blood urea nitrogen

BrB, bromobenzene; APAP, acetaminophen; Protection; Chloroform; Carbon tetrachloride; Bromobenzene; Hepatotoxicity; Clofibrate; CFB, clofibrate; CCl_4, carbon tetrachloride; $CHCl_3$, chloroform; SDH, sorbitol dehydrogenase, **127**, 1

Butadiene

Adducts; Guanine; Adenine, **113**, 70

Arteriosclerotic plaque; Tobacco smoke; Cockerels, **113**, 351

Biomonitoring; Haemoglobin; Adducts; Edman degradation, **113**, 112

Butadiene monoepoxide (BDO); Butadiene diepoxide (BDO_2); Butadiene metabolism, **113**, 17

Cancer risk assessment; Probabilistic risk assessment; Comprehensive realism; Decision analysis; Distributions; Physiologically based pharmacokinetic models, **113**, 231

Chloroprene; Inhalation toxicology; Hepatocellular necrosis; Anemia; Olfactory epithelial degeneration, **108**, 79

Chromosomal aberrations; Hemoglobin adducts; Individual sensitivity; Metabolic polymorphism, **113**, 77

Dideoxycytidine; Radiation; Stem cells; Hematopoietic; Lymphoma; Colony-forming units assay, **113**, 59

Diepoxybutane; Epoxybutene; Sister chromatid exchange; Chromosome aberrations, **113**, 336

Epidemiology; Mortality; Cancer, **113**, 157

Epoxides; Physiologically based pharmacokinetic model; Dosimetry, **113**, 318

hprt mutation; Biological monitoring; Human; Occupational health, **113**, 84

Inhalation; Rats; Mice; Species differences; Epoxide metabolites; Glutathione depletion, **113**, 306

Risk assessment; Genotoxic; Commission on Risk Assessment and Risk Management, **113**, 5

Rubber manufacturing; Occupational diseases; Neoplasms; Mortality; Longitudinal studies; Environmental; Carcinogens; Lymphohematopoietic cancer, **113**, 169

Styrene; Physiologically based pharmacokinetic model; Mixture; Interactions, **113**, 310

1,3-Butadiene

Butadiene monoxide; Diepoxybutane; Mercapturic acids; DNA adducts; Myeloperoxidase; Cytochrome P450; GSH-S-transferases, **113**, 23

Carcinogenicity; 1,2:3,4-Diepoxybutane; Glutathione conjugation; Metabolism, **113**, 297

Carcinogenicity; Reproductive toxicity; Developmental toxicity, **113**, 137

Inhalation exposure; Mice; Male-mediated F_1 effects, **113**, 120

DNA adducts; Genotoxicity, **113**, 328
Epidemiology; Leukemia; Non-Hodgkin's lymphoma, **113**, 148

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$CHCl_3$, chloroform

CCl_4, carbon tetrachloride; CFB, clofibrate; BUN, blood urea nitrogen; BrB, bromobenzene; APAP, acetaminophen; Protection; Chloroform; Carbon tetrachloride; Bromobenzene; Hepatotoxicity; Clofibrate; SDH, sorbitol dehydrogenase, **127**, 1

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***Cis*-fatty acids**

Cis-fatty acid anilides; Leukocytes; Ca^{2+}; Reactive oxygen metabolites, **110**, 39

Toxic Oil Syndrome; *Cis*-fatty acid anilides; Reactive oxygen metabolites; Intracellular calcium; Polymorphonuclear leukocytes, **104**, 113

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DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells, **127**, 49

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Coumarin 7-hydroxylase

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D0870

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Enzyme induction; Liver; Kidneys; Absorption; Distribution; 2,5-dichlorophenol, **131**, 73

2′,5′-dichlorobiphenyl

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1,2-Dichloroethane

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2,5-Dichlorophenol

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Dichlorovinylcysteine

Poly(ADP-ribosyl)ation; Nuclear matrix; Intermediate filament; Gene expression, **106**, 65

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N-nitrosodiethylamine; Ferrous iron; DNA strand breaks; Lipid peroxidation; Hepatocytes, **108**, 49

Dideoxycytidine

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Diene diepoxides

4-Vinyl-1-cyclohexene; 1,3-Butadiene; ^{32}P-postlabeling; DNA adducts; Mouse skin, **113**, 341

1,2:3,4-Diepoxybutane

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1,2-Epoxy-3-butene; 1,3-Butadiene; Glutathione; Haemoglobin adducts; Rats; Mice; Humans; Toxicokinetics; Physiological toxicokinetic model, **113**, 300

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Suspended particulate matter; Popliteal lymph node; IgE; Adjuvant, **129**, 227

Diesel exhaust inhalation

IgE; Interleukin-4; Interferon-γ, **116**, 227

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Carbon black; PLN assay; IgE; Inflammation; Adjuvant, **121**, 165

Hu-PBL-SCID mice; Aluminium hydroxide; IgE, **128**, 219

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Dietary supplementation

Vitamin E; Pulmonary toxicity; Fibrosis; Lung; Amiodarone, **133**, 75

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Methylmercury; Acute toxicity; Hepatotoxicity; Nephrotoxicity; Susceptibility, **111**, 21

Methylmercury; Acute toxicity; Hepatotoxicity; Nephrotoxicity; Susceptibility, **112**, 11

Diethyldithiocarbamate

Isoniazid; Hepatotoxicity; Hepatocytes; Dichloropropanol, **118**, 171

N-Benzyl-d-glucaminedithiocarbamate; Chelate effect; Testicular toxicity; Nickel; meso-2,3-Dimercaptosuccinic acid, **103**, 147

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c-src Knockout mice; 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin; Liver triglyceride accumulation, **135**, 95

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Lung epithelial cell lines; Neoplastic phenotype, **123**, 53

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Pharmacokinetics; Redistribution, **137**, 117

Digoxin-specific Fab fragments

Rats; Nephrotoxicity, **126**, 223

8-Dihydrodiol-9

Benzo(a)pyrene-7; Di(2-ethylhexyl)phthalate (DEHP); Peroxisome proliferators; 10-epoxide (BPDE); Glutathione S-transferase; Cytochrome P-450 (CYP); Silvex, **122**, 81

Dihydrofolate reductase

teratogenicity; Antifolates; Kinetic modelling; Simulation; Thymidylate synthase, **102**, 197

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Dimaval®

Chelating agent; Brain lead; Brain mercury; DMPS; 2,3-Dimercapto-1-propanesulfonate, **109**, 49

2,3-Dimercapto-1-propanesulfonate

Dimaval®; Chelating agent; Brain lead; Brain mercury; DMPS, **109**, 49

2-Dimethlyhydrazine

Dose-response; Chemical carcinogenesis; Risk assessment; DNA damage; Alkaline elution, **114**, 113

Dimethyl sulfoxide

Halogenated hydrocarbons; Nephrotoxicity; Fungicides; Rats, **100**, 79

1,2-dimethyl-3-hydroxypyridin-4- one

1-[Ethan-1′ol]-2-methyl-3-hydroxypyridin-4-one; 3-Hydroxypyridin-4-ones; 1,2-d-ethyl-3-hydroxypyridin-4-one; Blood-brain barrier; Chelator; P20; CP40; CP94; EL1NEt; L1; Deferiprone, **108**, 191

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Centrosome; γ-Tubulin; Microtubule; Multipolar spindle, **136**, 79

12-dimethylbenz(a)anthracene

Cytochrome P450; Porcine; Ovary; Mitochondria, **122**, 11

Dimethyldithiocarbamate

NF-κB; Human; T lymphocytes, **128**, 83

2,5-Dimethylfuran

2,5-Hexanedione; Mitosis; Cell culture; Schwann cell, **108**, 25

1,3-Dinitrobenzene

Seminiferous tubule; Testicular metabolism; Testicular toxicity; In vitro testicular model, **123**, 15

3-Dinitrobenzene

Seminiferous tubule; Testicular metabolism; Testicular toxicity; In vitro testicular model, **123**, 15

2,4-Dinitrochlorobenzene

Contact sensitization; Dendriti cells; Lymph node cell proliferative responses, **109**, 57

Dinitrophenol

Iodoacetate; Cytotoxicity; Neuroblastoma; In vitro, **110**, 123

Dioxins

Ah receptor; Risk assessment, **102**, 115

Cytochrome P450 1A1; Lymphocytes; Protein kinase C; Biomarkers, **124**, 39

Delayed-type hypersensitivity reaction; Interleukin-1; Phosphoenolpyruvate carboxykinase; TCDD; 2,3,7,8-Tetrachlorodibenzo-p-dioxin; Tumor necrosis factor, **116**, 9

Pharmacokinetics; Models, **102**, 125

TCDD; Glucocorticoid; Ah receptor; Palate, **105**, 365

Dipeptide transport

Kidney; Collecting duct; MDCK cells; Ochratoxin A; Aspartame; Organic anion transport; BCECF; Phorbol ester; EIPA, **131**, 193

Diphenyl ethers

Developmental toxicity; Rat; Mouse, **121**, 191

Dirichlet-multinomial model

Developmental toxicity; Two-stage clonal expansion model; Multi-stage model; Carcinogenesis; Ames assay; Mutagenesis; Toxicological mechanisms; Biologically based dose response models; Quantitative risk assessment; Physiologically based pharmacokinetics; Receptor-binding, **102**, 53

Disappearance time

Methanol; Ethanol; Chloral hydrate, **131**, 1

Disodium hexachloroplatinate

Beryllium sulphate; Cobalt chloride; Nickel sulphate; Potassium dichromate; Local lymph node assay (LLNA); BALB/c mice; Oxazolone; Toluene diisocyanate, **120**, 65

Disposition

Cancer; Inorganic arsenic; Methylation; Polymorphisms, **137**, 95

Distal latency

2-Bromopropane; Electrophysiology; Histopathology; Inhalation exposure; Motor nerve conduction velocity; Peripheral neurotoxicity, **135**, 87

Distal tubules

Proximal tubules; Kidney cells; Primary cell culture; *tert*-Butyl-hydroperoxide; Methyl vinyl ketone; *para*-Aminophenol, **103**, 85

Proximal tubules; Kidney cells; Thiophenes; 4-(2-Thienyl)butyric acid; Oxidative stress; Cytotoxicity, **103**, 167

Distribution

Absorption; Kidneys; Liver; Enzyme induction; 1,4-dichlorobenzene; 2,5-dichlorophenol, **131**, 73

Chloroanilines; Reactive intermediates; Rats, **131**, 109

Decision analysis; Comprehensive realism; Probabilistic risk assessment; Cancer risk assessment; Butadiene; Physiologically based pharmacokinetic models, **113**, 231

Inhalation; Autoradiography; Hexahydrophthalic anhydride; Allergy, **134**, 153

Placental transfer; Cadmium; Metallothionein; Immunohistochemistry; Transgenic mice, **127**, 167

Dithiocarbamates

Hepatocytes; Cadmium cytotoxicity; Chelate effect, **116**, 99

2,6-Dithiopurine

Cyclophosphamide; Hemorrhagic cystitis; Lung fibrosis; Cytoprotection; Acrolein, **125**, 1

6-Dithiopurine

2; Cyclophosphamide; Hemorrhagic cystitis; Lung fibrosis; Cytoprotection; Acrolein, **125**, 1

Dithiothreitol

2-Propen-1-ol; Allyl alcohol; Pyridine nucleotide; Isolated rat hepatocyte, **106**, 85

DK-35C

Convulsions; Cefazolin; Carbapenem antibiotics; $GABA_A$ receptors, **138**, 59

DMBA, 7,12-dimethylbenz[a]anthracene

Mϕ, macrophage; MCA, methylcholanthrene; MC-540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor, **128**, 151

DMEM, Dulbecco's minimal essential medium

DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide

excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid, **127**, 49

DMPS

Brain mercury; Brain lead; Chelating agent; Dimaval®; 2,3-Dimercapto-1-propanesulfonate, **109**, 49

DMSA

Ca^{2+} transients; Lead; Proximal tubular cells, **138**, 81

Pb^{2+}; *Paramecium*; Calcium channels; Lead toxicity; Ca-Na_2-EDT acid; Ascorbic acid, **108**, 165

DMSO, dimethylsulfoxide

DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium, **127**, 49

DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-depentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene, **126**, 213

DNA adduct

Biomarker; Hemoglobin adduct; Non-malignant disease; Eosinophilic cationic protein, **101**, 99

DNA adduct formation

Cigarette smoking; Lymphocytes; Glutathione *S*-transferase (class Mu); GST, glutathione *S*-transferase; PAH, polycyclic aromatic hydrocarbons; AF, 2-aminofluorene; AP, 2-aminophenantherene; ABP, 4-aminobiphenyl; BP, benzo(*a*)pyrene, **126**, 155

DNA adducts

1,3-Butadiene; Genotoxicity, **113**, 328

^{32}P-postlabeling; Diene diepoxides; 4-Vinyl-1-cyclohexene; 1,3-Butadiene; Mouse skin, **113**, 341

Mercapturic acids; Diepoxybutane; Butadiene monoxide; 1,3-Butadiene; Myeloperoxidase; Cytochrome P450; GSH-S-transferases, **113**, 23

Oncogenes; Carcinogenesis; Polycyclic aromatic hydrocarbons, **105**, 403

DNA alkylation

Hydrolysis; 1,2:3,4-Diepoxybutane; 1,2-Epoxybutene-3; 1,3-Butadiene, **113**, 294

DNA damage

8-hydroxyl-2′-deoxyguanosine; Free radical; Vanadium(IV), **106**, 27

Chemiluminescence; Lipid peroxidation; Reactive oxygen species; PC-12 cells; Sp rague Dawley rats; Fenthion; Chlorpyrifos; Alachlor; Chlordane; Endrin; Lactate dehydrogenase, **104**, 129

Delayed apoptosis; Antimony trichloride; Calcium accumulation, **129**, 113

Lactate dehydrogenase leakage; Nitricoxide; Superoxideanion; Macrophage; Cadmium; Cell viability, **112**, 219

Lipid peroxidation; Subchronic treatment; Smokeless tobacco; Urinary excretion; Lipid metabolites, **127**, 29

Lipid peroxidation; Vitamin E succinate; Ellagic acid; Oxidative stress; Fetotoxicity; TCDD; C57BL/6J mice; Placenta; Fetus, **124**, 27

Microcystin-LR; DNA unwinding; DNA strand breaks; Genotoxicity, **114**, 29

Risk assessment; Chemical carcinogenesis; 2-Dimethlyhydrazine; Dose-response; Alkaline elution, **114**, 113

Vinyl chloride monomer; Plastics workers; Single-cell gel electrophoresis; Comet assay; SCGE, single-cell gel electrophoresis; VCM, vinyl chloride monomer; SCE, sister chromatid exchange; TLV, threshold limit value; CAA, chloroacetaldehyde; CEO, chlorethylene oxide, **128**, 9

DNA damage in vitro

Cyanide; DNA strand breaks; Genotoxicity, **123**, 207

DNA degradation

Bleomycin; Iron; Glutathionyl hydroquinone; Benzoquinone; Hydroquinone; Benzene; Thiobarbituric acid reactive product, **106**, 49

DNA fragmentation

Apoptosis; Metallothionein; Thymus, **134**, 39

Apoptosis; Testes; Deltamethrin; Nitric oxide; Nitric oxide synthase inhibitor, **132**, 1

Bone marrow; Apoptosis; Gamma rays; PFC response, **135**, 69

Cadmium; Apoptosis; Heavy metals; Immune system; Immunotoxicity, **128**, 143

Human white blood cells; 8-oxide; Styrene-7, **120**, 111

Programmed cell death; Apoptosis; Cadmium; Mi-ADMS; Testes (rat), **107**, 1

Programmed cell death; Apoptosis; Cadmium; Selenium; Testes (rat), **116**, 169

DNA immunoassay

Postlabelling; Fluorescence; Urinary adduct; Biomonitoring, **101**, 41

DNA modifications

P450 induction in rats; β-Naphthoflavone; I-compounds; ^{32}P-postlabeling, **104**, 165

DNA strand breaks

DNA damage in vitro; Cyanide; Genotoxicity, **123**, 207

Ferrous iron; *N*-nitrosodiethylamine; Dichlorvos; Lipid peroxidation; Hepatocytes, **108**, 49

DNA unwinding; DNA damage; Microcystin-LR; Genotoxicity, **114**, 29

DNA synthesis

Paracetamol; Testis; Intestine; Spleen; Thymus; Liver, **116**, 49

DNA unwinding

DNA damage; Microcystin-LR; DNA strandbreaks; Genotoxicity, **114**, 29

DNA-protein cross-links

Oxidative damage; Metals; Formaldehyde; Acetaldehyde; Chromium; Copper; Iron; Manganese; Vanadium, **110**, 1

Dogs

Proteinuria and glucosuria; Proximal tubular toxins; Nephrotoxicity; Fungal toxin; Citrinin, **106**, 167

TdP; Sudden death; QT prolongation; Antifungal agent; D0870, **132**, 187

Dolichol

Hepatotoxicity; 1,2 Dichloroethane; Golgi apparatus; Glycosyl-transferases, **104**, 63

Dopamine

Dexamethasone; Corpus striatum; Cadmium; Developmental toxicity; Metallothionein; Neurotoxicity, **131**, 145

Dopamine receptor

Styrene; Xylene; Binding affinity; [^{3}H]raclopride; Two-sites analysis; Neurotoxicity; Prolactin, **100**, 185

Dopamine uptake

Lipid peroxidation; Striatum slices; MPTP, **122**, 93

Dose addition

Hazard index; Risk assessment; Chemical mixtures; Response addition; Interactions data, **105**, 137

Dose metrics

Carcinogenesis; Risk assessment; Isoprene; Dose-response modeling, **113**, 263

Dose-dependent relationship

3-Carene; Alveolar macrophages; Cell viability; Morphology, **120**, 99

Dose-response

1,2-Dimethlyhydrazine; Chemical carcinogenesis; Risk assessment; DNA damage; Alkaline elution, **114**, 113

2-Dimethlyhydrazine; Chemical carcinogenesis; Risk assessment; DNA damage; Alkaline elution, **114**, 113

Benchmark; Relational database, **114**, 81

Carbon tetrachloride; Colchicine; Maximally tolerated dose; Mitosis; Necrosis; Tissue repair, **118**, 181
Delayed-type hypersensitivity (DTH); Cell-mediated immunity; ELISA; Humoral-mediated immunity; 2,3,8-Tetrachlorodibenzo-*p*-dioxin; Time course, **106**, 221

Susceptibility; Variability; Risk assessment; Risk factors, **111**, 253

Dose-response for tissue repair

Carbon tetrachloride; Chlordecone; Tissue repair; Thioacetamide; Maximum tolerated doses; Risk assessment, **105**, 251

Dose-response modeling

Dose metrics; Carcinogenesis; Risk assessment; Isoprene, **113**, 263

Dosimetry

Physiologically based pharmacokinetic model; Epoxides; Butadiene, **113**, 318

Hepatocarcogenesis; Receptor, **102**, 133

Particle deposition; Particles; Ozone, **105**, 327

Pharmacokinetics; Cross-species extrapolation; Mechanistic models; Allometric scaling, **102**, 95

Dot blot hybridisation

Cyclosporin A; Bis(tri-*n*-butyltin)oxide; FACS; Lymphocyte transformation test; RT-PCR, **135**, 49

Doxorubicin

Daunorubicin; Cardiomyocytes; Cytotoxicity; ATP depletion; Metabolism, **104**, 1

Losoxantrone; Piroxantrone; Cardiotoxicity; Nephrotoxicity; Reactive oxygen species; Electronmicroscopy; Iron complexes, **128**, 35

LoVoDx cells; LoVo; Okadaic acid; Cantharidic acid; Apoptosis resistance, **134**, 109

DPBS, Dulbecco's phosphate-buffered saline

EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide, **127**, 49

DPPD

Benomyl; Methyl 1-(butylcarbamoyl)-2-benzimidazole-carbamate; U74389G; Antioxidants; Lipid peroxidation; Glutathione; Oxidative stress, **116**, 177

Drinking water

Water disinfectants; Hyperchlorination; Chlorine; Immunotoxicity, **125**, 53

Drinking water disinfection by-products

Dichloroacetic acid; Hepatocarcinogenicity, **114**, 207

Drug interactions

Xenobiotic metabolism; Essential oils; Monoterpenes; CYP2B subfamily; Cytochrome P450, **124**, 135

Drug metabolism

Cytochrome P-450; Human liver; Inflammation; Liver disease, **123**, 177

Drug metabolizing enzymes

Aflatoxin B1; Cytochrome P450; Glutathione *S*-transferase; Rabbit liver, **108**, 39

Drug/chemical interaction

Departure from additivity; Chemical mixtures, **105**, 189

Drug-induced lupus

Anti-myeloperoxidase antibodies; Propylthiouracil; ANCA; Taurine, **114**, 155

Immune system; Idiosyncratic drug reactions; Adverse drug reactions, **119**, 37

Drug-related lupus

Pharmacovigilance; Side effects, **119**, 23

DS, dermatan sulphate

CS, chondroitin sulphate; GAG, sulphated glycosaminoglycans; Lysosomal storage, reversibility of; Glycosaminoglycans; Dicationic amphiphilic drugs; Tilorone; HS, heparan sulphate; PBS, phosphate-buffered saline, **128**, 91

DTNB, 5,5′-dithiobis(2-nitrobenzoic acid)

ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate, **128**, 53

γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinyl-ethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride, **126**, 55

ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-dependentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide, **126**, 213

DTPA

Tiron; Rats; Nephrotoxicity; Uranyl acetate, **118**, 49

Durum wheat

Cells; Coeliac disease; A-Gliadin; Peptides; Prolamines; MAC, minimal agglutinating concentration; MALDI-MS, matrix-assisted laser-desorption ionization mass spectrometry; MIC, minimal inhibitory concentration; PT digest, peptic–tryptic digest, **127**, 97

Coeliac disease; Peptides; Cells, **120**, 207

E

E. coli

Human CYP; Antibody; Heterologous expression; Xenobiotic; Metabolism, **106**, 207

Early biochemical marker

Enzyme induction; Oncogene activation; Oxidative damage; Low-density lipoprotein, **101**, 55

Earthworms

Lumbricusterrestris; Coelomocyte; Heavy metals; Mercury; Cadmium; Lead; Zinc; Immunotoxicity; Phagocytosis; Environmental pollution; Risk assessment; Environmental health; Invertebrates, **109**, 157

EC_{50}, effective concentrations causing 50% decrease in viability or differentiation

EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline, **127**, 49

ECG, electrocardiogram

BNZ, benactyzine; AChE, acetylcholinesterase; ACh, acetylcholine; Rat; Circulation; Respiration; Benactyzine; HI-6; Cholinergic–anticholinergic pretreatment; Soman; MAP, mean arterial pressure; MRV, minute respiratory volume; OP, organophosphate; RR, respiratory rate; THP, trihexyphenidyle, **128**, 1

ECOD, 7-ethoxycoumarin *O*-deethylase

GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-dependentylase; TBARS, thiobarbituric acid reacting substances; Bro-

mobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid), **126**, 213

Edman degradation

Adducts; Haemoglobin; Biomonitoring; Butadiene, **113**, 112

Efflux

Uptake; Serum bile acids; Xylene, **120**, 1

EG, ethylene glycol

1D NOESY, one-dimensional nuclear Overhauser effect spectroscopy; PRESAT, presaturation sequence; FID, free induction decay; TSP-d_4, 3(trimethylsilyl)-2,2′,3,3′ tetradeuteropropionic acid; ^{1}H NMR, proton nuclear magnetic resonance; ^1H NMR Screening; Ethylene glycol; Methanol; Overdose monitoring; Toxicology, **128**, 73

Eicosanoids

Arachidonic acid; Rats; Airway segments; A23187, **100**, 111

Leukotrienes; Pulmonary; Lung; Airway; Inflammation; Pollutants, **114**, 187

Peroxisome; Ciprofibrate; Transforming growth factor-β; AP-1, **131**, 99

Phenobarbital; Ciprofibrate; Prostaglandins; Peroxisome, **123**, 101

Prostaglandin; Peroxisome; Cyclooxygenase; Phospholipase A2; Ciprofibrate, **126**, 65

EIPA

Phorbol ester; BCECF; Organic anion transport; Aspartame; Dipeptide transport; Kidney; Collecting duct; MDCK cells; Ochratoxin A, **131**, 193

Eisai hyperbilirubinemic rats

Glutathione S-conjugate export pump; Canalicular multispecific organic anion transporter; Canalicular multidrug resistance protein; Hepatic and renal lesions; Biliary excretion of inorganic Hg and glutathione, **126**, 23

Eisai hyperbilirubinuric (EHB) rat

Biliary excretion of Cd, Cu and Zn; Glutathione and organic aniontransports, **112**, 87

EL1NEt

CP94; CP40; P20; Chelator; Blood-brain barrier; 1,2-diethyl-3-hydroxypyridin-4-one; 1,2-dimethyl-3-hydroxypyridin-4-one; 1-[Ethan-1′ol]-2-methyl-3-hydroxypyridin-4-one; 3-Hydroxypyridin-4-ones; L1; Deferiprone, **108**, 191

Electron microscopy

3,3′,4,4′,5-Pentachlorobiphenyl; Liver; Morphometry; PCB 126; Rat, **136**, 107

Cytotoxicity; Adenine nucleotide degradation; Oxidant stress; *tert*-Butyl hydroperoxide; Isolated cardiomyocytes, **106**, 39

Rat liver; PCB 153; Morphometry, **120**, 171

Electron paramagnetic resonance

Spin traps; Nitroxide free radicals; Skin irritation; Skin sensitization, **126**, 33

Electronmicroscopy

Reactive oxygen species; Nephrotoxicity; Cardiotoxicity; Doxorubicin; Losoxantrone; Piroxantrone; Iron complexes, **128**, 35

Electrophysiology

Distal latency; 2-Bromopropane; Histopathology; Inhalation exposure; Motor nerve conduction velocity; Peripheral neurotoxicity, **135**, 87

Elemental mercury

Mercury; Mercury vapor; Ethanol; Guinea pig; Fetal liver; Metallothionein, **119**, 193

ELISA

Benzene; Immunosuppression; Immunotoxicity; Flow cytometry; Immunolabeling, **119**, 227

Dose-response; Delayed-type hypersensitivity (DTH); Cell-mediated immunity; Humoral-mediated immunity; 2,3,8-Tetrachlorodibenzo-*p*-dioxin; Time course, **106**, 221

Ellagic acid

Oxidative stress; Fetotoxicity; TCDD; Vitamin E succinate; Lipid peroxidation; DNA damage; C57BL/6J mice; Placenta; Fetus, **124**, 27

Elongation

Translation; Cyclosporin A metabolites M1 and M17; Cyclosporin A; Nephrotoxicity, **100**, 17

Embryo culture

Embryotoxicity; Toxaphene congeners, **124**, 153

In vitro fertilization; Oocyte maturation; Ethylene oxide; Bovine, **108**, 33

Embryonic carcinoma cells

P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity, **127**, 49

Embryopathy

Murine embryo-hepatocyte co-culture model; Cyclophosphamide; Embryotoxicity; Proteratogens; Bioactivating system, **102**, 259

Embryotoxicity

Embryopathy; Murine embryo-hepatocyte co-culture model; Cyclophosphamide; Proteratogens; Bioactivating system, **102**, 259

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ENU, ethylnitrosourea

GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate, **127**, 49

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Estrogen receptors

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Ethenyloxirane

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2-Ethylhexanol

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Fatty liver

Ferret; Fatty acidoxidation; Lipid peroxidation; CYP-4A1 induction; Spurioushepatotoxicity, **112**, 105

FCCP, *p*-(trifluoromethoxy)phenylhydrazone

MCT, monocarboxylate transporter; MD, microdialysis; BBR, brain-to-blood ratio; Al, aluminum; Transport; Monocarboxylate transporter; Microdialysis; Blood–brain barrier; Aluminum citrate; 4-TMA-AP, 4-trimethylammonium-antipyrine, **127**, 59

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Breathable gas (oxygen) hoods; Hopcalite filters; Challenge combustion atmospheres; Lung simulators; PPBE tests, **115**, 63

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Oxidative damage; Lipid peroxidation; Malondialdehyde; Rat hepatocytes; Rat liver, **131**, 121

Functional immune parameters

Enhanced pathology; Cyclosporin A; Immunotoxicity; Repeated dose toxicity, **129**, 91

Fungal toxin

Citrinin; Nephrotoxicity; Proximal tubular toxins; Proteinuria and glucosuria; Dogs, **106**, 167

Fungicides

Bioactivation; Nephrotoxicity; Rats; Sulfation, **138**, 165

2-dicarboximide; N-(trichloromethylthio)cyclohex-4-ene-1; Captan; Caenorhabditiselegans; Stressresponse; Biomonitor, **109**, 119

Dimethyl sulfoxide; Halogenated hydrocarbons; Nephrotoxicity; Rats, **100**, 79

Glucuronidation; Nephrotoxicity; Rats; Succinimides, **132**, 43

Rats; Nephrotoxicity; Sulfation; Bioactivation, **123**, 1

Rats; Structure–nephrotoxicity relationships; Nephrotoxicity; Succinimides, **132**, 127

Furan

B6C3F1 mouse; Liver; Hepatotoxicity; Proliferation; Apoptosis; Aminobenzotriazole; Biotransformation, **118**, 195

Fusarenon-X

Apoptosis; Mouse; Thymocyte; Mycotoxin; Immunotoxicity; Flow cytometry, **127**, 195

G

G-6-Pase, glucose-6-phosphatase

GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase, **128**, 53

Ga-67

Aluminum; Anemia; Aluminum lactate; Iron gluconate, **100**, 1

GABA, γ-amino butyric acid

MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea, **127**, 49

$GABA_A$ receptors

DK-35C; Convulsions; Cefazolin; Carbapenem antibiotics, **138**, 59

Gadolinium chloride

Cadmium chloride; Kupffer cell; Liver injury; Hepatotoxicity; Metallothionein; Primary isolated hepatocytes, **121**, 155

Carbon tetrachloride; Cadmium chloride; Hepatocytes; Cytochrome P450; Microsomes, **121**, 143

GAG, sulphated glycosaminoglycans

Lysosomal storage, reversibility of; Glycosaminoglycans; Dicationic amphiphilic drugs; Tilorone; CS, chondroitin sulphate; DS, dermatan sulphate; HS, heparan sulphate; PBS, phosphate-buffered saline, **128**, 91

Gamma rays

DNA fragmentation; Bone marrow; Apoptosis; PFC response, **135**, 69

Gangliosides

Lysophospholipids; Mammary gland; Melittin; Phospholipids; Phosphorylation; Protein kinase C, **104**, 73

Garlic

Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-depentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene, **126**, 213

Bromobenzene; Hepatotoxicity; Glutathione; Liver slices, **132**, 215

Gastrointestinal absorption

Citrate; Toxicokinetics; Aluminum; Rats, **126**, 115

Gastrointestinal tract

Heart; Lung; Histology; Pathology; Primary blast injury; Blast overpressure; Brain, **121**, 17

γ-GC, γ-glutamylcysteine

γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid), **126**, 55

γ-GCE, γ-glutamylcysteinyl ethyl ester

GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine, **126**, 55

G-CSF

Interleukin-2; Interferons; Cytokines; GM-CSF; Side-effects; Autoimmunity; Immune disorders, **105**, 31

G-CSF, granulocyte colony-stimulating factor

IL-6, interleukin-6; GM-CSF, granulocyte-macrophage colony-stimulating factor; Preclinical model; Nonhuman primates; Acute-phase proteins, **101**, 157

Gender-difference

Species-difference; 1,3-Butadiene (BD); Butadiene monoepoxide (BDO); Butadiene diepoxide (BDO_2), **113**, 322

Gene expression

Intermediate filament; Nuclear matrix; Poly(ADP-ribosyl)ation; Dichlorovinylcysteine, **106**, 65

Lung epithelial cells; Cadmium; Metallothionein-1; Heme oxygenase-1; Glutathione-S-transferase Ya; Glutathione, **119**, 179

Metallothionein; Lung; Cadmium, **112**, 205

Oxidative stress response; Apoptosis; Lung epithelial cell; Cadmium; Glutathione; Glutathione S-transferase; γ-Glutamylcysteine synthetase; Redox sensitive transcription factors, **133**, 43

Genetic susceptibility

X-rays; Ultraviolet light; Mutagenic chemicals; Safety factors, **111**, 331

Genetic toxicology

Toxicant suppressants; N-Gas Model; Combustion gases; Polyurethane foam, **115**, 89

Genetically-modified plant foods

Novel foods; A-gliadin; Spermine; Spermidine; Oligomers of *N*-acetyl-glucosamine; Mannan; Cereals; Isolated cells; Fetal intestines; Toxicity screening; In vitro toxicology; Prolamin peptides; Gliadin peptides; Gluten sensitive enteropathies; Coeliac disease, **132**, 99

Genotoxic

Risk assessment; Butadiene; Commission on Risk Assessment and Risk Management, **113**, 5

Genotoxic carcinogen

1,3-Butadiene; Air quality standard, **113**, 221

Genotoxicity

Aflatoxin B_{001}; Gut-associated lymphoid tissue; Immunotoxicity; Rat, **138**, 93

Cypermethrin; Immunotoxicity; Permethrin; Rat, **137**, 47

DEREK; Toxicity; Structure-activity relationships; Computer prediction; Skin sensitisation; Carcinogenicity, **106**, 267
DNA adducts; 1,3-Butadiene, **113**, 328

DNA strand breaks; DNA damage in vitro; Cyanide, **123**, 207

DNA strand breaks; DNA unwinding; DNA damage; Microcystin-LR, **114**, 29

Kidney; 8-Oxo-deoxyguanosine; Potassium bromate; Oxidation; Glutathione; Reactive oxygen; Lipid peroxides, **126**, 93

Gentamicin

Rubidium; Lithium; Enzymuria; Kidney; Rat, **110**, 9

Germanium

Tissue distribution; Kinetics, **132**, 147

GFAP-positive cell

Purkinje cell loss; Mercury vapour; Gliosis; Brown Norway rat, **104**, 83

Gill epithelial cells

Hepatocytes; Rainbow trout; Mucochloric acid; MX; Calcein AM; Rubidium leakage; Toxicity assessment; *Daphnia magna*, **100**, 69

Gills

Chromium (VI); Kidney; Intestine; ATPases; Fish, **112**, 237

Gliadin peptides

Gluten sensitive enteropathies; Coeliac disease; Prolamin peptides; In vitro toxicology; Toxicity screening; Fetal intestines; Isolated cells; Cereals; Mannan; Oligomers of *N*-acetyl-glucosamine; Spermidine; Spermine; A-gliadin; Novel foods; Genetically-modified plant foods, **132**, 99

Gliosis

GFAP-positive cell; Purkinje cell loss; Mercury vapour; Brown Norway rat, **104**, 83

α_{2u}-Globulin

2,4,4-Trimethyl-2-pentanol; Cathepsins; PBPK modeling, **136**, 89

Cancer; Formaldehyde; Default options; Risk assessment; Extrapolation, **102**, 239

Nephrotoxicity; Indicator; α_{2u}-Globulin nephropathy; Hyaline droplet, **106**, 149

α_{2u}-Globulin nephropathy

Indicator; Nephrotoxicity; α_{2u}-Globulin; Hyaline droplet, **106**, 149

Glucocorticoid

Interleukin-6; Lipopolysaccharide; Metallothionein; Induction; Synergism, **112**, 29

Metallothionein; Colchicine; RU38486; Serum factor; Induction, **116**, 201

TCDD; Dioxin; Ah receptor; Palate, **105**, 365

Glucocorticoid hormone-regulated enzymes

Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital; HC=hydrocortisone acetate; TCDD =2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT=L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT=L-serine dehydratase; TAT=L-tyrosine aminotransferase; 3-Methylcholanthrene; Phenobarbital, **126**, 127

Glucocorticoids

Protein kinase C; Lead acetate; Hepatoma cells, **119**, 155

Protein kinase C; Receptor binding; C6 cells; Lead acetate, **116**, 109

Tyrosine aminotransferase; Hepatoma cells; Lead acetate; Inhibition, **100**, 57

Gluconeogenesis

rat liver; Aldolase; 5-Pentachlorobiphenyl (PCB 126); inhibition; Polychlorinated biphenyl (PCB); Amino acid sequence (peptide mapping), **116**, 193

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Thioacetamide; Tissuerepair; Cell division; Palmitic acid; L-carnitine, **111**, 163

Glucuronidation

Fungicides; Nephrotoxicity; Rats; Succinimides, **132**, 43

Glutamate

Neuroprotective activity; Sarcophytolide; *Sarcophyton glaucum*; Cell death; Calcium, **131**, 133

Glutamate dehydrogenase

Threonine deaminase; Transaminases; Amino acids; Liver cirrhosis; Thioacetamide (TAA), **106**, 197

γ-Glutamylcysteine synthetase

Glutathione; Menadione, **112**, 45

Glutathione S-transferase; Glutathione; Gene expression; Oxidative stress response; Apoptosis; Lung epithelial cell; Cadmium; Redox sensitive transcription factors, **133**, 43

γ-Glutamylcysteinylethyl ester

Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride, **126**, 55

Glutathione

APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity, **128**, 53

α-Naphthylisothiocyanate; Leukotrienes; Zileuton; A63162; Liver injury; Hepatotoxicity; Inflammation, **100**, 139

γ –Glutamylcysteine synthetase; Menadione, **112**, 45

1,2:3,4-Diepoxybutane; 1,2-Epoxy-3-butene; 1,3-Butadiene; Haemoglobin adducts; Rats; Mice; Humans; Toxicokinetics; Physiological toxicokinetic model, **113**, 300

1,2-Epoxybutene-3; 1,3-Butadiene; Man; Mouse; PBPK model; Rat; Species extrapolation, **113**, 40

Acrolein; Cell proliferation, **122**, 111

Antioxidants; Peroxides; detoxication of; Detoxication; role of glutathione in; Apoptosis; redox regulation of; Blood plasma; GSH content in; Demographic

factors affecting GSH; Diet; GSH content in, **105**, 267

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Gene expression; Oxidative stress response; Apoptosis; Lung epithelial cell; Cadmium; Glutathione S-transferase; γ-Glutamylcysteine synthetase; Redox sensitive transcription factors, **133**, 43

Glutathione *S*-transferase; Lead; Oxidative stress; Antioxidant response element, **128**, 191

Glutathione-S-transferase Ya; Heme oxygenase-1; Metallothionein-1; Gene expression; Lung epithelial cells; Cadmium, **119**, 179

Hepatotoxicity; Garlic; Bromobenzene; Liver slices, **132**, 215

Lipid peroxidation; Antioxidants; U74389G; DPPD; Benomyl; Methyl 1-(butylcarbamoyl)-2-benzimidazole-carbamate; Oxidative stress, **116**, 177

Lipid peroxidation; Hepatotoxicity; Nephrotoxicity; Cadmium; Glycine; Glycyrrhizin; Minophagen, **132**, 139

Mitochondrial membrane permeability transition; Apoptosis; Mercury, **124**, 211

Oxidation; Genotoxicity; Kidney; 8-Oxo-deoxyguanosine; Potassium bromate; Reactive oxygen; Lipid peroxides, **126**, 93

Oxidative stress; CHO; Lead toxicity; NAC; LPO, **108**, 57

Pyruvate dehydrogenase; Thiol; Cardiac myocytes; Antimony; Adenine nucleotides, **119**, 203

Reducing equivalents; Oxidative stress; Glutathione disulfide; Heart, **124**, 11

Styrene; Ethanol; Brain, **106**, 115

Succinimides; Nephrotoxicity; Buthionine sulfoximine, **117**, 207

Toxicity; Liver damage; N-acetylcysteine; Cimetidine; Paracetamol, **121**, 223

Toxicity in vitro; Acrolein; Rat lung slices; Phase II metabolism; Pneumocytes II, **133**, 129

Valproic acid; Vitamin C; Vitamin E; Rat hepatocytes; Cytotoxicity; Metabolism, **112**, 69

Glutathione (reduced)

Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester, **126**, 55

Glutathione and organic aniontransports

Eisaihyperbilirubinuric (EHB) rat; Biliary excretion of Cd, Cu and Zn, **112**, 87

Glutathione conjugation

1,2:3,4-Diepoxybutane; Carcinogenicity; 1,3-Butadiene; Metabolism, **113**, 297

Glutathione content

Covalent binding; Potentiation of hepatotoxicity; Dichloroacetic acid; Chloroform; Cytochrome P450 content, **124**, 63

Glutathione depletion

Epoxide metabolites; Species differences; Mice; Rats; Inhalation; Butadiene, **113**, 306

Glutathione disulfide

Glutathione; Reducing equivalents; Oxidative stress; Heart, **124**, 11

Glutathione peroxidase

Catalase; Arsenite; xrs-5; -6 cells, **121**, 229

Metallothionein; Cadmium; Lung; Macrophages; Cytokines; Oxidant resistance, **107**, 163

Glutathione S-conjugate export pump

Canalicular multispecific organic anion transporter; Canalicular multidrug resistance protein; Hepatic and renal lesions; Biliary excretion of inorganic Hg and glutathione; Eisai hyperbilirubinemic rats, **126**, 23

Glutathione S-transferase

10-epoxide (BPDE); 8-dihydrodiol-9; Benzo(a)-pyrene-7; Di(2-ethylhexyl)phthalate (DEHP); Peroxisome proliferators; Cytochrome P-450 (CYP); Silvex, **122**, 81

Cytochrome P450; Drug metabolizing enzymes; Aflatoxin B1; Rabbit liver, **108**, 39

Enzyme inhibition; Atherosclerosis; Cholesterol; Cytochrome P450, **126**, 179

Glutathione; Gene expression; Oxidative stress response; Apoptosis; Lung epithelial cell; Cadmium; γ-Glutamylcysteine synthetase; Redox sensitive transcription factors, **133**, 43

Glutathione; Lead; Oxidative stress; Antioxidant response element, **128**, 191

Olfactory; Methyliodide; Cytochrome P450; Covalent binding, **129**, 169

Triethyl lead effects; NAD(P)Hquinone oxidoreductase, **117**, 61

Glutathione *S*-transferase (class Mu)

Lymphocytes; DNA adduct formation; Cigarette smoking; GST, glutathione *S*-transferase; PAH, polycyclic aromatic hydrocarbons; AF, 2-aminofluorene; AP, 2-aminophenantherene; ABP, 4-aminobiphenyl; BP, benzo(*a*)pyrene, **126**, 155

Glutathione-S-transferase Ya

Heme oxygenase-1; Metallothionein-1; Gene expression; Lung epithelial cells; Cadmium; Glutathione, **119**, 179

Glutathionyl hydroquinone

Benzoquinone; Hydroquinone; Benzene; Iron; Bleomycin; DNA degradation; Thiobarbituric acid reactive product, **106**, 49

Gluten sensitive enteropathies

Coeliac disease; Gliadin peptides; Prolamin peptides; In vitro toxicology; Toxicity screening; Fetal intestines; Isolated cells; Cereals; Mannan; Oligomers of *N*-acetyl-glucosamine; Spermidine; Spermine; A-gliadin; Novel foods; Genetically-modified plant foods, **132**, 99

Glycerol

Fructose; Protection; Cell injury; Liver; Paracetamol, **103**, 113

Glycine

Copper; Cadmium; Butylhydroperoxide; 1-Butanol; Hepatotoxicity; Vanadate, **128**, 63

Glycyrrhizin; Minophagen; Cadmium; Nephrotoxicity; Hepatotoxicity; Lipid peroxidation; Glutathione., **132**, 139

Glycogen

Mitochondria; Panadiplon; Hypoxia; Hepatocyte; Anxiolytic, **108**, 9

Glycogen (glucose)

Toxicity; Hepatocytes; Paracetamol (acetaminophen); Metallothionein; Lactate dehydrogenase; Alanine aminotransferase, **125**, 131

Glycolysis

Rat liver slices; Cell injury; ATP levels; Analgesic; Paracetamol; Cell protection, **108**, 175

Respiratory chain; Reactive oxygen species; Orthophenanthroline; ATPase, **110**, 85

Glycosaminoglycans

Dicationic amphiphilic drugs; Tilorone; Lysosomal storage, reversibility of; GAG, sulphated glycosaminoglycans;

CS, chondroitin sulphate; DS, dermatan sulphate; HS, heparan sulphate; PBS, phosphate-buffered saline, **128**, 91

Heparan sulfate; Fibroblast growth factor; Endothelial cell; Proteoglycan; Lead, **133**, 147

Glycosyl-transferases

Golgi apparatus; Dolichol; Hepatotoxicity; 1,2 Dichloroethane, **104**, 63

Glycyrrhizin

Minophagen; Glycine; Cadmium; Nephrotoxicity; Hepatotoxicity; Lipid peroxidation; Glutathione., **132**, 139

GM-CSF

G-CSF; Interleukin-2; Interferons; Cytokines; Side-effects; Autoimmunity; Immune disorders, **105**, 31

GM-CSF, granulocyte-macrophage colony-stimulating factor

G-CSF, granulocyte colony-stimulating factor; IL-6, interleukin-6; Preclinical model; Nonhuman primates; Acute-phase proteins, **101**, 157

Golgi apparatus

Dolichol; Hepatotoxicity; 1,2 Dichloroethane; Glycosyl-transferases, **104**, 63

GR, glutathione reductase

GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione, **128**, 113

Gravimetric

Colophony; Analysis; Airborne; Rosin; Sensitization, **111**, 225

Group diagnostics

Toxic metal; Environmental pollutant; Exposure assessment; Human hair; Biomarker; Environmental epidemiology, **101**, 29

Growth factors

Cytokines; LPS; Acetaldehyde; Ethanol; HepG2 cells; Oxidative stress, **134**, 197

Growth kinetics

Cell survival; Cell proliferation; Tumor promotion; Phospholipids; Nuclear proteins; Lipids; Ethanol;

Acetaldehyde; Lactate dehydrogenase release; Micronuclei; Teniposide; V79 cells, **138**, 19

GSH content in

Blood plasma; redox regulation of; Apoptosis; role of glutathione in; Detoxication; detoxication of; Peroxides; Antioxidants; Glutathione; Demographic factors affecting GSH; Diet; GSH content in, **105**, 267

Diet; Demographic factors affecting GSH; GSH content in; Blood plasma; redox regulation of; Apoptosis; role of glutathione in; Detoxication; detoxication of; Peroxides; Antioxidants; Glutathione, **105**, 267

GSH, glutathione

NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase, **128**, 53

GSH, reduced glutathione

GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester, **126**, 55

GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-depentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase, **126**, 213

GSSG, oxidized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase, **128**, 113

GSH-px, glutathione peroxidase

GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione, **126**, 55

GSH-S-transferases

Cytochrome P450; Myeloperoxidase; DNA adducts; Mercapturic acids; Diepoxybutane; Butadiene monoxide; 1,3-Butadiene, **113**, 23

GSSG, glutathione disulphide

LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-depentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulpho-

xide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione, **126**, 213

GSSG, oxidized glutathione

LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione, **128**, 113

LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase, **126**, 55

GST, glutathione *S*-transferase

Glutathione *S*-transferase (class Mu); Lymphocytes; DNA adduct formation; Cigarette smoking; PAH, polycyclic aromatic hydrocarbons; AF, 2-aminofluorene; AP, 2-aminophenantherene; ABP, 4-aminobiphenyl; BP, benzo(*a*)pyrene, **126**, 155

GTPase

Eukaryotic ribosomes; *Boletus satanas*; Bolesatine; ATPase; Mushroom toxicity, **100**, 51

Guanine

Adducts; Butadiene; Adenine, **113**, 70

Guinea pig

Ethanol; Mercury vapor; Elemental mercury; Mercury; Fetal liver; Metallothionein, **119**, 193

β-Lactam antibiotic; Antigenic potential; Anaphylaxis; Maximization test, **123**, 147

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Neutral endopeptidase; Tachykinins; Airway hyperresponsiveness; Toluene diisocyanate, **116**, 17

Organic acid anhydrides; IgG1; Cross-reactivity; Structure-activity, **118**, 223

Ozone; Hyperreactivity; Epithelium; Inflammation, **120**, 159

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Genotoxicity; Aflatoxin B_{001}; Immunotoxicity; Rat, **138**, 93

H

^{1}H NMR Screening

Ethylene glycol; Methanol; Overdose monitoring; Toxicology; ^{1}H NMR, proton nuclear magnetic resonance; TSP-d_4, 3(trimethylsilyl)-2,2′,3,3′ tetradeuteropropionic acid; FID, free induction decay; PRESAT, presaturation sequence; 1D NOESY, one-dimensional nuclear Overhauser effect spectroscopy; EG, ethylene glycol, **128**, 73

^{1}H NMR, proton nuclear magnetic resonance

^{1}H NMR Screening; Ethylene glycol; Methanol; Overdose monitoring; Toxicology; TSP-d_4, 3(trimethylsilyl)-2,2′,3,3′ tetradeuteropropionic acid; FID, free induction decay; PRESAT, presaturation sequence; 1D NOESY, one-dimensional nuclear Overhauser effect spectroscopy; EG, ethylene glycol, **128**, 73

[^{3}H]raclopride

Binding affinity; Dopamine receptor; Styrene; Xylene; Two-sites analysis; Neurotoxicity; Prolactin, **100**, 185

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Macrophage; Vomitoxin; NO; Cytokine; IL-6; TNF-α; IFN-γ; Trichothecene; Mycotoxin; Endotoxin; LPS; RAW 264.7, **125**, 203

Haemoglobin

Biomonitoring; Butadiene; Adducts; Edman degradation, **113**, 112

Haemoproteins; Halomethanes; Structure-activity relationship; Suicidal inactivation; Cytochrome P-450, **100**, 175

Haemoglobin adducts

Glutathione; 1,2:3,4-Diepoxybutane; 1,2-Epoxy-3-butene; 1,3-Butadiene; Rats; Mice; Humans; Toxicokinetics; Physiological toxicokinetic model, **113**, 300

Haemolysis

Chorioallantoic membrane; Lysine; Irritation K*N*α-acyl amino acids, **106**, 1

Haemoproteins

Haemoglobin; Halomethanes; Structure-activity relationship; Suicidal inactivation; Cytochrome P-450, **100**, 175

Hairless guinea pig

Chemical warfare agent; Human skin keratinocyte culture; Hypothermia; Neuron culture; L-nitroarginine methyl ester, L-NAME; Protection; Sulphur mustard, bis(2-chloroethyl) sulphide, HD; Temperature; Toxicity, **134**, 27

Halogenated hydrocarbons

Aminophenols; Nephrotoxicity; Rats, **110**, 47

Hydroxysuccinimides; Nephrotoxicity; Rats, **110**, 17

Nephrotoxicity; Aminophenols; Rats; Aniline compounds, **108**, 109

Nephrotoxicity; Dimethyl sulfoxide; Fungicides; Rats, **100**, 79

Nephrotoxicity; F344 rats; Urinary bladder toxicity, **124**, 125

Halothane (2-bromo-2-chloro-1,1,1-trifluoroethane)

Hepatotoxicity; Immunochemistry; Kupffer cell; Trifluoroacetylated-adduct; Antigen presenting cell, **120**, 119

Halomethanes

Haemoproteins; Haemoglobin; Structure-activity relationship; Suicidal inactivation; Cytochrome P-450, **100**, 175

Isoflurane; Enhancement; Inhibition; Interaction; Metabolism, **104**, 123

Lipid peroxidation; Hypoxia; Hepatotoxicity; Free radical scavengers, **128**, 25

Hamster

Buccal mucosa; Receptor; Epidermal growth factor; Benzo[*a*]pyrene; Nicotine, **107**, 31

Cytochrome P-450; Metabolism; Phenobarbital; Toxicity; Triphenyltin, **137**, 151

Harmol

Molybdate; α-Naphthol, **127**, 121

Hasse-diagram

Scoring system; Metadatabank; Online databases; Toxicology clusters; Toxicology databases; Toxicology information, **100**, 225

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Immunosuppression; Humoral immune function; Rat; Sheep red blood cells; Carbon tetrachloride, **126**, 137

Hazard index

Risk assessment; Chemical mixtures; Dose addition; Response addition; Interactions data, **105**, 137

Hazardous substances data bank

Information technology; Toxicology data network; Environmental fate, **103**, 137

Hazardous waste

Chromium; Chloroform; Chemical mixtures; Carcinogenesis; Benzene; Arsenic; Lead; Liver; Phenol; Trichloroethylene, **137**, 137

HC=hydrocortisone acetate

TCDD=2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT=L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT=L-serine dehydratase; TAT=L-tyrosine aminotransferase; 3-Methylcholanthrene; Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital, **126**, 127

Health

Beryllium; Surveillance; Sensitization; Exposure, **111**, 213

Health-risk estimation

Exposure assessment; Environmental exposure; Biological marker; Biomarker, **101**, 107

Hearing loss

Blast overpressure; Auditory injury; Histology; Audiometry, **121**, 29

Mixtures; Trichloroethylene; Toluene; Xylene; Chlorobenzene, **105**, 345

Heart

Aorta; Allylamine; β-Aminopropionitrile; Lathyrism; Lysyl oxidase; Medial injury; Rat; Semicarbazide-sensitive amine oxidase; Vascular toxicity, **138**, 137

Ca^{2+} ATPase; Inhibition; Rat; Sarcoplasmic reticulum, **129**, 95

Food mutagen; Endothelium; CYP1A1; Immunohistochemistry; Lymph node; Muscle; Uterus, **129**, 145

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Malondialdehyde; Lipid peroxidation; Anthracycline antibiotics; Daunomycin; Antioxidant enzymes, **126**, 83

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Heart mitochondria

Tacrolimus (FK506); Cyclosporin A; Calcium; Adriamycin, **131**, 175

Heat shock protein

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Uranyl acetate; Acute renal failure; Acquired resistance; Rat, **117**, 183

Stress proteins; Lung toxicology; Nitric acid; Ozone; Inhalation, **107**, 111

Step down; Tolerance; Sensitization; Cadmium chloride, **116**, 27

Heat shock (stress) proteins

Fenthion; Chlorpyrifos; Chlordane; Endrin; Alachlor; HSP89→; HSP89β; Sprague–Dawley rats; Liver; Brain; Lungs; PC-12 cells, **112**, 57

Heavy metals

Coelomocyte; Lumbricusterrestris; Earthworms; Mercury; Cadmium; Lead; Zinc; Immunotoxicity; Phagocytosis; Environmental pollution; Risk assessment; Environmental health; Invertebrates, **109**, 157

DNA fragmentation; Cadmium; Apoptosis; Immune system; Immunotoxicity, **128**, 143

α-Hederin

Lipopolysaccharide; Zinc; Cadmium; Oxidative stress; Metallothionein; Antioxidant systems, **104**, 25

HeLa cell culture

Copper; Cadmium; Mercury; Metal ions; Redox status; Silver; Thiols, **117**, 89

Glutathione; Endothelial cell culture; Cysteine; Copper ions; Homocysteine, **123**, 33

HeLa cell line

Endothelial cell line; Copper; Cadmium; Hep G2 cell line; Mercury; Metal ions; Thiols, **126**, 203

Hemangiosarcoma

Hepatocellular carcinoma; Piperonyl butoxide; Carcinogenesis; Mice, **124**, 95

Hematopoietic

Stem cells; Radiation; Dideoxycytidine; Butadiene; Lymphoma; Colony-forming units assay, **113**, 59

Hematotoxicants

Toxic interactions; PBPK/PD modeling; Physiological pharmacokinetics, **105**, 355

Heme oxygenase

Oxidative stress; Cadmium chloride; Bilirubin; α-Tocopherol; Rat liver, **104**, 141

Heme oxygenase-1

Metallothionein-1; Gene expression; Lung epithelial cells; Cadmium; Glutathione-S-transferase Ya; Glutathione, **119**, 179

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4-Aminobiphenyl; Tobacco smoke; Maternal blood; Fetal blood, **107**, 209

Biomonitoring; Propylene oxide; Rat; Toxicokinetics, **134**, 1

Chromosomal aberrations; Butadiene; Individual sensitivity; Metabolic polymorphism, **113**, 77

DNA adduct; Biomarker; Non-malignant disease; Eosinophilic cationic protein, **101**, 99

Hemoglobin-induced injury

High energy impulse noise; Blast overpressure; Lipid peroxidation; Antioxidant depletion; Prooxidants; Methemoglobin; Oxoferryl hemoglobin, **121**, 81

Hemolytic anemia

Carbapenem; Primates, **108**, 207

Hemorrhage

Arteritis; Inflammation; Necrosis; Myocardium; Rat; Aging; Minoxidil, **110**, 71

Hemorrhagic cystitis

2,6-Dithiopurine; Cyclophosphamide; Lung fibrosis; Cytoprotection; Acrolein, **125**, 1

Hemotoxicity

Subchronic; Chlorpropham; Rat; Methemoglobin, **123**, 111

Hep G2 cell line

HeLa cell line; Endothelial cell line; Copper; Cadmium; Mercury; Metal ions; Thiols, **126**, 203

Heparan sulfate

Endothelial cells; Lead; Proteoglycan; Vascular, **118**, 1

Fibroblast growth factor; Endothelial cell; Glycosaminoglycan; Proteoglycan; Lead, **133**, 147

Fibroblast growth factor; Endothelial cell; Perlecan; Proteoglycan; Lead, **133**, 159

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Hepatic human cell culture

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Hepatic mononuclear cells

Negative selection; Immunotoxicology; Thymus; 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), **103**, 195

Hepatic peroxisome proliferation

Di-(2-ethylhexyl)adipate; Cell replication; Liver tumour formation; Species differences, **123**, 217

Hepatic stellate cells

Liver fibrosis; Proteolysis, **137**, 1

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Cyclosporine; Oxidative stress; Antioxidants, **123**, 197

Iron; Lipid peroxidation; Curcumin and eugenol, **107**, 39

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Hepatocarcinogenicity

Drinking water disinfection by-products; Dichloroacetic acid, **114**, 207

Hepatocarcogenesis

Dosimetry; Receptor, **102**, 133

Hepatocellular carcinoma

Piperonyl butoxide; Hemangiosarcoma; Carcinogenesis; Mice, **124**, 95

Hepatocellular necrosis

Inhalation toxicology; Butadiene; Chloroprene; Anemia; Olfactory epithelial degeneration, **108**, 79

Neutrophils; Platelets; Liver; Lipopolysaccharide, **121**, 181

Hepatocytes

Absorption; Metabolism; Toxicity; Selenite, **100**, 151

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ATP depletion; Mitochondrial dysfunction; Cytotoxicity; Propyl gallate; Antioxidant, **114**, 135

Cadmium chloride; Carbon tetrachloride; Gadolinium chloride; Cytochrome P450; Microsomes, **121**, 143

Cadmium cytotoxicity; Dithiocarbamates; Chelate effect, **116**, 99

Calcium channel inhibitors; Nicardipine; Nickel uptake; Vasopressin; Verapamil, **124**, 21

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Cytokine-induced-neutrophil-chemoattractant; Acetaminophen; Hydrogen peroxide; Kupffer cells; Tumor necrosis factor-α, **121**, 117

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Flavin-containing monooxygenases; Azole derivatives; Hepatotoxicity; Ketoconazole; Metabolite; Methimazole; N-Deacetyl ketoconazole; n-Octylamine; Primary cultures, **117**, 123

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Kupffer cells; Liver injury; Tumor necrosis factor-α; Acetaminophen, **133**, 85

Lipid peroxidation; DNA strand breaks; Ferrous iron; *N*-nitrosodiethylamine; Dichlorvos, **108**, 49

Paracetamol (acetaminophen); Metallothionein; Toxicity; Glycogen (glucose); Lactate dehydrogenase; Alanine aminotransferase, **125**, 131

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Hepatoma cells

Glucocorticoids; Protein kinase C; Lead acetate, **119**, 155

Lead acetate; Tyrosine aminotransferase; Glucocorticoids; Inhibition, **100**, 57

Hepatotoxicity

Acute toxicity; Dietary protien; Methylmercury; Nephrotoxicity; Susceptibility, **111**, 21

Acute toxicity; Dietary protien; Methylmercury; Nephrotoxicity; Susceptibility, **112**, 11

Anthocyanin; Liver; Carbon tetrachloride, **131**, 93

Bile duct toxicant; Taurine; Diaminodiphenylmethane; Protection, **122**, 193

Clofibrate; Bromobenzene; Carbon tetrachloride; Chloroform; Protection; APAP, acetaminophen; BrB, bromobenzene; BUN, blood urea nitrogen; CFB, clofibrate; CCl_4, carbon tetrachloride; $CHCl_3$, chloroform; SDH, sorbitol dehydrogenase, **127**, 1

1,2 Dichloroethane; Dolichol; Golgi apparatus; Glycosyl-transferases, **104**, 63

Garlic; Bromobenzene; Glutathione; Liver slices, **132**, 215

Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase, **128**, 53

Glycine; Copper; Cadmium; Butylhydroperoxide; 1-Butanol; Vanadate, **128**, 63

Halothane (2-bromo-2-chloro-1,1,1-trifluoroethane); Immunochemistry; Kupffer cell; Trifluoroacetylated-adduct; Antigen presenting cell, **120**, 119

Halothane; Lipid peroxidation; Hypoxia; Free radical scavengers, **128**, 25

Hepatocytes; Dichloropropanol; Isoniazid; Diethyldithiocarbamate, **118**, 171

Hepatocytes; Flavin-containing monooxygenases; Azole derivatives; Ketoconazole; Metabolite; Methimazole; N-Deacetyl ketoconazole; n-Octylamine; Primary cultures, **117**, 123

Liver; B6C3F1 mouse; Furan; Proliferation; Apoptosis; Aminobenzotriazole; Biotransformation, **118**, 195

Liver injury; A63162; Zileuton; Leukotrienes; Glutathione; α-Naphthylisothiocyanate; Inflammation, **100**, 139

Liver injury; Kupffer cell; Gadolinium chloride; Cadmium chloride; Metallothionein; Primary isolated hepatocytes, **121**, 155

Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-dependentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic, **126**, 213

Microcystin; Phosphatase; Organic ion transporter, **106**, 123

Nephrotoxicity; Cadmium; Glycine; Glycyrrhizin; Minophagen; Lipid peroxidation; Glutathione., **132**, 139

Peroxisome proliferator; Perfluorodecanoic acid, **134**, 179

HepG2

Transgenic mice; Lipopolysaccharide; Transferrin; Lead, **118**, 11

HepG2 cells

Buthionine-sulfoximine; Reduced glutathione; Free radical damage; Iprodione; Vinclozolin, **129**, 183

Ethanol; Acetaldehyde; LPS; Cytokines; Growth factors; Oxidative stress, **134**, 197

Pb; Porphyrins; Coproporphyrinogen oxidase, **126**, 163

HepG2 cell line

Monooxygenase activities; Cytochrome P450 isoenzymes; n-Butylisocyanate; Carbendazim, **123**, 135

Heptachlor

Insecticide; MAP kinase module; Human immune cells; ERK 1 and 2, MAP kinases of 44 and 42 kDa, also referred to as extracellular signal-regulated protein kinases; MAP, mitogen-activated protein; MAPK, MAP kinase; MEK, MAPK kinase or ERK kinase; MEKK, MEK kinase; PAGE, polyacrylamide gel electrophoresis; PBMC, peripheral blood mononuclear cells, **128**, 17

Herbicide

Catfish; Dichlobenil; Olfactory, **117**, 111

Herpes simplex virus type2

Mercury; Virus; Macrophage; Interferonβ; Cytokine, **114**, 57

Heterologous expression

Antibody; *E. coli*; Human CYP; Xenobiotic; Metabolism, **106**, 207

Hexachlorobenzene

Mechanism of action; Protein tyrosine kinase; Epidermal growth factor receptor; Membrane protein phosphorylation, **125**, 83

Hexachlorocyclohexane

Lindane; Fish; Immunotoxicity; Pronephros, **118**, 211

Hexahydrophthalic anhydride

Autoradiography; Inhalation; Distribution; Allergy, **134**, 153

2,5-Hexanedione

Mitosis; Cell culture; Schwann cell; 2,5-Dimethylfuran, **108**, 25

HI-6

Atropine; Acute phase response, **106**, 11

Behavioural incapacitation; Soman; Pharmacokinetics; Marmosets; Acetylcholinesterase; Repeated dose; Guinea pigs, **112**, 183

Cholinergic–anticholinergic pretreatment; Soman; Benactyzine; Respiration; Circulation; Rat; ACh, acetylcholine; AChE, acetylcholinesterase; BNZ, benactyzine; ECG, electrocardiogram; MAP, mean arterial pressure; MRV, minute respiratory volume; OP, organophosphate; RR, respiratory rate; THP, trihexyphenidyle, **128**, 1

Methoxime; Obidoxime; Pralidoxime; Soman; BI-6; RaL, **132**, 111

Soman; Atropine; Benactyzine; Biperiden; Acetylcholinesterase; Corticosterone; Tyrosine aminotransferase; Rat, **116**, 147

Soman; Obidoxime; Acetycholinesterase; Corticosterone; Tyrosine aminotransferase; Rat, **101**, 167

High energy impulse noise

Blast overpressure; Hemoglobin-induced injury; Lipid peroxidation; Antioxidant depletion; Prooxidants; Methemoglobin; Oxoferryl hemoglobin, **121**, 81

Blast overpressure; Lung injury; Oxidative stress; Free radicals, **121**, 1

Hippocampal astrocytes

Capsaicin; Primary cultures; Vero cells; Protein synthesis inhibition; Tyrosine; Protection, **117**, 133

Hippocampal neurons

2,3,7,8-TCDD; Calcium; And→-PKC, **112**, 19

Hippocampus

Hypothyroid; Learning; Mossy fibers; PCB, **138**, 11

His102Gln barnase

Photoinactivated binase; Bacillus amyloliquefaciens ribonuclease (barnase); Bacillus intermedius RNase (binase); Isolated perfused rat kidney; Nephrotoxicity, **120**, 55

Histamine release

Mast cells; Passive cutaneous anaphylaxis; PCA; Pesticides; TNF-α, **126**, 41

Histamine releasingfactors

Chemokine; Occupational asthma; Diisocyanate; MCP-1; RANTES, **111**, 191

Histology

Auditory injury; Hearing loss; Blast overpressure; Audiometry, **121**, 29

Pathology; Primary blast injury; Blast overpressure; Lung; Heart; Gastrointestinal tract; Brain, **121**, 17

Spleen; Rats; Immunotoxicity; Cyclophosphamide; Nitromin; Melphalan; Chlorambucil, **107**, 47

Histopathological changes

Kidney lesions; Liver lesions; Morphological change; Treatment-related alterations, **107**, 17

Histopathology

Electrophysiology; Distal latency; 2-Bromopropane; Inhalation exposure; Motor nerve conduction velocity; Peripheral neurotoxicity, **135**, 87

MTT; Lung; Tissue culture; Sulphur mustard, bis-(2-chloroethyl)sulphide, HD; Toxicology, **100**, 39

Rat; Inhalation; Nickel subsulfide; Bronchoalveolar lavage fluid, **103**, 9

HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase

IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT=L-serine dehydratase; TAT=L-tyrosine aminotransferase; 3-Methylcholanthrene; Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital; HC=hydrocortisone acetate; TCDD=2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT=L-alanine aminotransferase, **126**, 127

Homeostasis

Meso-2,3-dimercaptosuccinic acid; Calcium; Lead, **134**, 19

Homocysteine

HeLa cell culture; Glutathione; Endothelial cell culture; Cysteine; Copper ions, **123**, 33

Hopcalite filters

Challenge combustion atmospheres; Lung simulators; PPBE tests; Brathable gas (oxygen hoods); Filter/oxygen mask, **115**, 41

Challenge combustion atmospheres; Lung simulators; PPBE tests; Breathable gas (oxygen) hoods; Filter/oxygen mask, **115**, 63

Host resistance

Aging; *Trichinella spiralis*; 2,3,7,8-tetrachlorodibenzo-p-dioxin; Immunosuppression, **136**, 15

Immunotoxic agents; Risk assessment; Infectious diseases; UVB radiation, **119**, 59

HPLC/ICP-MS

Chelation therapy; Wilson disease; Copper; Metallothionein; LEC rat; Tetrathiomolybdate, **106**, 75

Trimethylselenonium ion; Monomethylselenol; Selenium; Se-distribution; Stable isotope tracer, **103**, 157

***hprt* mutation**

1,3-Butadiene; Occupation, **113**, 100

Biological monitoring; Butadiene; Human; Occupational health, **113**, 84

***hprt* mutants**

Human lymphocytes; 1,3-Butadiene; Chromosomal aberrations; Micronuclei; Comet assay, **113**, 91

HS, heparan sulphate

DS, dermatan sulphate; CS, chondroitin sulphate; GAG, sulphated glycosaminoglycans; Lysosomal storage, reversibility of; Glycosaminoglycans; Dicationic amphiphilic drugs; Tilorone; PBS, phosphate-buffered saline, **128**, 91

HSP 70

Precision-cut liver slices; HSP 90, **104**, 35

HSP 90

HSP 70; Precision-cut liver slices, **104**, 35

HSP89β

HSP89→; Heat shock (stress) proteins; Fenthion; Chlorpyrifos; Chlordane; Endrin; Alachlor; Sprague–Dawley rats; Liver; Brain; Lungs; PC-12 cells, **112**, 57

HSP89→

Heat shock (stress) proteins; Fenthion; Chlorpyrifos; Chlordane; Endrin; Alachlor; HSP89β; Sprague–Dawley rats; Liver; Brain; Lungs; PC-12 cells, **112**, 57

Human

Butadiene; *hprt* mutation; Biological monitoring; Occupational health, **113**, 84

In vitro; Organophosphate; Coagulation, **119**, 167

NF-κB; Dimethyldithiocarbamate; T lymphocytes, **128**, 83

Rabbit; Liver; Cyclopropane carboxylic acid; β-oxidation; Rhodamine 123; Mitochondria; Panadiplon, **131**, 33

Human cell lines

Cytotoxicity; MTS assay; Risk assessment; MEIC, **124**, 179

Human CYP

E. coli; Antibody; Heterologous expression; Xenobiotic; Metabolism, **106**, 207

Human CYP2E1

Risk assessment; Chemical mixtures; Cytochrome P450; Bioactivation, **105**, 217

Human depressives

FSL rats; Organophosphate DFP; Animal model of MCS; Cholinergic supersensitivity, **111**, 119

Human drug metabolism

Cytochrome P450; Cytochrome P450 3A4; Xenobiotics; Biotransformation, **104**, 1

Human fetal cell line

Mercury toxicity; Cadmium toxicity; Cytotoxicity; WRL-68 cells; Metallothionein, **102**, 285

Human hair

Biomarker; Exposure assessment; Environmental pollutant; Toxic metal; Group diagnostics; Environmental epidemiology, **101**, 29

Human health

Risk assessment; Site-specific information; Chemical-specific information, **113**, 346

Human hepatic fetal cellline

Cadmium; Ca inhibition uptake, **112**, 97

Human immune cells

MAP kinase module; Insecticide; Heptachlor; ERK 1 and 2, MAP kinases of 44 and 42 kDa, also referred to as extracellular signal-regulated protein kinases; MAP, mitogen-activated protein; MAPK, MAP kinase; MEK, MAPK kinase or ERK kinase; MEKK, MEK kinase; PAGE, polyacrylamide gel electrophoresis; PBMC, peripheral blood mononuclear cells, **128**, 17

Human liver

Drug metabolism; Cytochrome P-450; Inflammation; Liver disease, **123**, 177

Human lymphocytes

1,3-Butadiene; *hprt* mutants; Chromosomal aberrations; Micronuclei; Comet assay, **113**, 91

Human skin keratinocyte culture

Hairless guinea pig; Chemical warfare agent; Hypothermia; Neuron culture; L-nitroarginine methyl ester, L-NAME; Protection; Sulphur mustard, bis(2-chloroethyl) sulphide, HD; Temperature; Toxicity, **134**, 27

Human white blood cells

8-oxide; Styrene-7; DNA fragmentation, **120**, 111

Humanized antibody

Interleukin-6 receptor; Non-human primates; Toxicity; Kinetics; Immunogenicity, **122**, 163

Humans

Mice; Rats; Haemoglobin adducts; Glutathione; 1,2:3,4-Diepoxybutane; 1,2-Epoxy-3-butene; 1,3-Butadiene; Toxicokinetics; Physiological toxicokinetic model, **113**, 300

Humoral immune function

Immunosuppression; Hazard Identification; Rat; Sheep red blood cells; Carbon tetrachloride, **126**, 137

Humoral immunity

Cellular immunity; Lead; Natural killer cells, **109**, 167

Humoral-mediated immunity

ELISA; Dose-response; Delayed-type hypersensitivity (DTH); Cell-mediated immunity; 2,3, 8-Tetrachlorodibenzo-*p*-dioxin; Time course, **106**, 221

Hu-PBL-SCID mice

Diesel exhaust particles; Aluminium hydroxide; IgE, **128**, 219

Hyaline droplet

α_{2u}-Globulin nephropathy; Indicator; Nephrotoxicity; α_{2u}-Globulin, **106**, 149

Hydrazine

Protection; Fructose; ATP depletion; Hepatocytes, **120**, 225

Hydrogen peroxide

Free radicals; Metal-binding; Thiol oxidation; Metallothionein, **120**, 37

Hepatocytes; Cytokine-induced-neutrophil-chemoattractant; Acetaminophen; Kupffer cells; Tumor necrosis factor-α, **121**, 117

Hydrolysis

1,2:3,4-Diepoxybutane; 1,2-Epoxybutene-3; 1,3-Butadiene; DNA alkylation, **113**, 294

Hydrophobicity

Tetrahymena pyriformis; Anaesthetic-like; Toxicity; Opioids; Partition coefficient, **117**, 35

Hydroquinone

Benzene; Benzoquinone; Glutathionyl hydroquinone; Iron; Bleomycin; DNA degradation; Thiobarbituric acid reactive product, **106**, 49

Phenol; Benzene; Competitive inhibition, **105**, 225

8-Hydroxydeoxyguanosine

Chlorinated and brominated haloacetates; Peroxisome proliferation, **110**, 103

8-Epi-prostaglandin $F_2\alpha$; 2-Nitropropane; Perchloroethylene; TBARS; Tetrachloroethylene, **138**, 43

8-Hydroxyl-2′-deoxyguanosine

Free radical; Vanadium(IV); DNA damage, **106**, 27

Hydroxylamines

Aromatic amines; Methemoglobin; 5-dichloroaniline, **118**, 23

Hydroxylated metabolite

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IR-NT-ANP, immunoreactive N-terminal ANP

IR-ANP, immunoreactive ANP; NT-ANP, N-terminal peptide of pro ANP; ANP, atrial natriuretic peptide; Cardiovascular toxicity; Plasma ANP; Norcocaine; Cocaine, **128**, 101

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NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-dependentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide, **126**, 213

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Liver dysfunction; Ammonia; Amino acids; Thioacetamide (TAA); Ureagenesis, **135**, 21

Liver slices

AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-dependentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity, **126**, 213

Glutathione; Hepatotoxicity; Garlic; Bromobenzene, **132**, 215

Liver triglyceride accumulation

Differential toxicity; c-src Knockout mice; 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin, **135**, 95

Liver tumors

Ras proto-oncogene; *Ras* activation; Mouse carcinogenicity, **101**, 125

Liver tumour formation

Hepatic peroxisome proliferation; Di-(2-ethylhexyl)-adipate; Cell replication; Species differences, **123**, 217

LLC-PK1 cells

Cadmium; OK cells; Organic cation transporter; Inorganic anion exchanger; Cisplatin, **131**, 183

L-NAME

L-arg; Lead; Nephrotoxicity; Nitric oxide, **132**, 119

Local lymph node assay

Skin sensitization; Chemical allergens; Hypersensitivity; Predictive testing, **108**, 141

Skin sensitization; Chemical allergens, **103**, 63

Local lymph node assay (LLNA)

BALB/c mice; Potassium dichromate; Nickel sulphate; Cobalt chloride; Beryllium sulphate; Disodium hexachloroplatinate; Oxazolone; Toluene diisocyanate, **120**, 65

Local toxicity

Intranasal; Nasal; Toxicology; Vaccination, **107**, 61

Long-Evans Cinnamon rat

Biliary excretion; Cadmium; Copper; Metallothionein, **108**, 1

Long-Evans Cinnamon (LEC) rats

Biliary excretion of Cu and Cd; Tetrathiomolybdate; Wilson disease, **120**, 47

Longitudinal studies

Environmental; Carcinogens; Mortality; Neoplasms; Occupational diseases; Rubber manufacturing; Butadiene; Lymphohematopoietic cancer, **113**, 169

Long-term culture

Rat hepatocyte; Porphyrin production; Lead exposure, **102**, 275

Losoxantrone

Piroxantrone; Doxorubicin; Cardiotoxicity; Nephrotoxicity; Reactive oxygen species; Electronmicroscopy; Iron complexes, **128**, 35

LoVo

LoVoDx cells; Doxorubicin; Okadaic acid; Cantharidic acid; Apoptosis resistance, **134**, 109

LoVoDx cells

LoVo; Doxorubicin; Okadaic acid; Cantharidic acid; Apoptosis resistance, **134**, 109

Low-density lipoprotein

Oxidative damage; Oncogene activation; Enzyme induction; Early biochemical marker, **101**, 55

LPO

Glutathione; Oxidative stress; CHO; Lead toxicity; NAC, **108**, 57

LPO, lipid peroxide

MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5'-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, re-

duced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione, **126**, 55

LPS

Acetaldehyde; Ethanol; HepG2 cells; Cytokines; Growth factors; Oxidative stress, **134**, 197

Endotoxin; Mycotoxin; Trichothecene; IFN-γ; TNF-α; IL-6; Cytokine; NO; H_2O_2; Macrophage; Vomitoxin; RAW 264.7, **125**, 203

IC-21 macrophage; Exposure model; Inflammation; Nitrogen dioxide; Cytokine gene expression, **104**, 159

Lumbricusterrestris

Earthworms; Coelomocyte; Heavy metals; Mercury; Cadmium; Lead; Zinc; Immunotoxicity; Phagocytosis; Environmental pollution; Risk assessment; Environmental health; Invertebrates, **109**, 157

Lung

Amiodarone; Fibrosis; Pulmonary toxicity; Vitamin E; Dietary supplementation, **133**, 75

1,3-Butadiene; Metabolism; Rats; Mice, **113**, 314

3-Carene; Guinea pig; Bronchoconstriction; Dermal sensitisation, **125**, 59

Collagen; Morphometry; Ozone; Acid aerosols; Air pollution, **116**, 133

Histology; Pathology; Primary blast injury; Blast overpressure; Heart; Gastrointestinal tract; Brain, **121**, 17

Macrophages; Cadmium; Metallothionein; Glutathione peroxidase; Cytokines; Oxidant resistance, **107**, 163

Metallothionein; Geneexpression; Cadmium, **112**, 205

Ozone; Inflammation; Permeability; Rabbit serum, **127**, 17

Pulmonary; Eicosanoids; Leukotrienes; Airway; Inflammation; Pollutants, **114**, 187

Pyridine; Benzene; Liver; Microsomes; Metabolism, **104**, 53

Tissue culture; Sulphur mustard, bis-(2-chloroethyl)-sulphide, HD; MTT; Histopathology; Toxicology, **100**, 39

Lung disease

Passive smoking; Tobacco smoke; Protein synthesis; Cell toxicity, **100**, 163

Lung epithelial cell

Cadmium; Apoptosis; Oxidative stress response; Gene expression; Glutathione; Glutathione S-transferase; γ-Glutamylcysteine synthetase; Redox sensitive transcription factors, **133**, 43

Lung epithelial cells

Cadmium; Gene expression; Metallothionein-1; Heme oxygenase-1; Glutathione-S-transferase Ya; Glutathione, **119**, 179

Lung epithelial cell lines

Differentiation; Neoplastic phenotype, **123**, 53

Lung fibrosis

Hemorrhagic cystitis; 2,6-Dithiopurine; Cyclophosphamide; Cytoprotection; Acrolein, **125**, 1

Lung injury

Blast overpressure; Sheep; Exercise performance, **121**, 51

High energy impulse noise; Blast overpressure; Oxidative stress; Free radicals, **121**, 1

Vitamin A; Paraquat; 2-Nitronaphthalene; 1-Nitronaphthalene; Liver injury, **105**, 237

Lung neoplasia

Isoprene; Liver neoplasia; Forestomach neoplasia; Macrocytic anemia, **113**, 247

Lung simulators

PPBE tests; Challenge combustion atmospheres; Hopcalite filters; Brathable gas (oxygen hoods); Filter/oxygen mask, **115**, 41

PPBE tests; Challenge combustion atmospheres; Hopcalite filters; Breathable gas (oxygen) hoods; Filter/oxygen mask, **115**, 63

Lung slices

Cadmium; Alveolar fibrosis; Transforming growth factor-β1; λ-Carrageenan, **127**, 157

Lung tissues

Th2-mechanism; Cytokines; Toxic oil syndrome, **118**, 61

Lung toxicology

Stress proteins; Heat shock protein 70; Nitric acid; Ozone; Inhalation, **107**, 111

Lungs

Brain; Liver; Sprague–Dawley rats; HSP89β; HSP89→; Heat shock (stress) proteins; Fenthion; Chlorpyrifos; Chlordane; Endrin; Alachlor; PC-12 cells, **112**, 57

Lymph node

Immunohistochemistry; Heart; Food mutagen; Endothelium; CYP1A1; Muscle; Uterus, **129**, 145

Lymph node activation

IgE; Rats; Dermal application; Sensitizers, **117**, 229

Lymph node cell proliferation assay

Contact hypersensitivity; Guinea pig; 24-h occlusive patch sensitization (24CP); Screening, **114**, 47

Lymph node cell proliferative responses

Dendriti cells; Contact sensitization; 2,4-Dinitrochlorobenzene, **109**, 57

Lymphocyte blastogenesis

Antibody production; Macrophage phagocytosis; Immunotoxicology; Pentachlorophenol; Lymphocyte cell surface antigene; Immune compensation, **125**, 141

Lymphocyte cell surface antigene

Lymphocyte blastogenesis; Antibody production; Macrophage phagocytosis; Immunotoxicology; Pentachlorophenol; Immune compensation, **125**, 141

Lymphocyte function associated antigen-1

CD4; CD3; Monoclonal antibodies; TNF-α; Lipopolysaccharides, **100**, 213

Lymphocyte proliferation

CTL activity; NK activity; *p*-Chloronitrobenzene; Immunotoxicity; Mice, **127**, 223

Lymphocyte subsets

Cytokines; Monkey; Immunotoxicity, **105**, 81

Lymphocyte transformation

Contact hypersensitivity; Formaldehyde; Tetramethylthiuram monosulfide; Epidermal cells, **104**, 17

Lymphocyte transformation test

FACS; Dot blot hybridisation; Cyclosporin A; Bis(tri-*n*-butyltin)oxide; RT-PCR, **135**, 49

Lymphocytes

Apoptosis; Proliferation; Inhalation; Mouse; Benzene; Immunotoxicity, **118**, 137

Dioxin; Cytochrome P450 1A1; Protein kinase C; Biomarkers, **124**, 39

DNA adduct formation; Cigarette smoking; Glutathione *S*-transferase (class Mu); GST, glutathione *S*-transferase; PAH, polycyclic aromatic hydrocarbons; AF, 2-aminofluorene; AP, 2-aminophenantherene; ABP, 4-aminobiphenyl; BP, benzo(*a*)pyrene, **126**, 155

Immunosuppression; Hepatocytes; Antibody response; 2-Methoxyacetaldehyde; 2-Methoxyacetic acid; 2-Methoxyethanol; Rats; Mice, **123**, 227

Liver; Inflammation, **138**, 103

Metallothionein; Plasma membrane; Thiols, **108**, 129

N-acetylcysteine; Immunmodulation; Mitogens; Protective effects, **116**, 219

Lymphohematopoietic cancer

Butadiene; Rubber manufacturing; Occupational diseases; Neoplasms; Mortality; Longitudinal studies; Environmental; Carcinogens, **113**, 169

Lymphoid organs

Cypermethrin; Pyrethroid; Insecticide; Developmental immunotoxicity; Immunoproliferative response, **125**, 67

Lymphoma

Hematopoietic; Stem cells; Radiation; Dideoxycytidine; Butadiene; Colony-forming units assay, **113**, 59

Lysine

Chorioallantoic membrane; Haemolysis; Irritation K*Nα*-acyl amino acids, **106**, 1

Lysophospholipids

Gangliosides; Mammary gland; Melittin; Phospholipids; Phosphorylation; Protein kinase C, **104**, 73

Lysosomal storage, reversibility of

Glycosaminoglycans; Dicationic amphiphilic drugs; Tilorone; GAG, sulphated glycosaminoglycans; CS, chondroitin sulphate; DS, dermatan sulphate; HS, heparan sulphate; PBS, phosphate-buffered saline, **128**, 91

Lysosomes

Lipid peroxidation; *cis*-Dichlorodiamineplatinum; 6-Bromo-6-deoxy-L-ascorbic acid; Sialic acid, **137**, 23

Tilorone; Quinacrine; Chloroquine; SulphatedGlycosaminoglycans; Lipidosis, **110**, 27

Lysyl oxidase

Lathyrism; Heart; Aorta; Allylamine; *β*-Aminopropionitrile; Medial injury; Rat; Semicarbazide-sensitive amine oxidase; Vascular toxicity, **138**, 137

M

Mϕ, macrophage

MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene, **128**, 151

MAC, minimal agglutinating concentration

Prolamines; Peptides; A-Gliadin; Durum wheat; Cells; Coeliac disease; MALDI-MS, matrix-assisted laser-desorption ionization mass spectrometry; MIC, minimal inhibitory concentration; PT digest, peptic–tryptic digest, **127**, 97

Macrocytic anemia

Forestomach neoplasia; Liver neoplasia; Lung neoplasia; Isoprene, **113**, 247

Macrophage

Cadmium; Superoxideanion; Nitricoxide; Lactate dehydrogenase leakage; DNA damage; Cell viability, **112**, 219

Cytotoxicity; Arsenical; Arsenite; Arsenosugar, **122**, 205

Ozone; Interferon-γ, **114**, 243

Virus; Herpes simplex virus type2; Mercury; Interferonβ; Cytokine, **114**, 57

Vomitoxin; H_2O_2; NO; Cytokine; IL-6; TNF-α; IFN-γ; Trichothecene; Mycotoxin; Endotoxin; LPS; RAW 264.7, **125**, 203

Macrophage phagocytosis

Immunotoxicology; Pentachlorophenol; Antibody production; Lymphocyte blastogenesis; Lymphocyte cell surface antigene; Immune compensation, **125**, 141

Macrophages

Aflatoxin B_1; Cytotoxicity; Reactive oxygen intermediate; Reactive nitrogen intermediate; Cytokine, **133**, 171

B cells; *p*-Chloronitrobenzene; NK; Nucleated erythrocytes; T cells, **137**, 35

Lung; Cadmium; Metallothionein; Glutathione peroxidase; Cytokines; Oxidant resistance, **107**, 163

MALDI-MS, matrix-assisted laser-desorption ionization mass spectrometry

MAC, minimal agglutinating concentration; Prolamines; Peptides; A-Gliadin; Durum wheat; Cells; Coeliac disease; MIC, minimal inhibitory concentration; PT digest, peptic–tryptic digest, **127**, 97

Male-mediated F_1 effects

Mice; Inhalation exposure; 1,3-Butadiene, **113**, 120

Malondialdehyde

Lipid peroxidation; Anthracycline antibiotics; Daunomycin; Heart; Antioxidant enzymes, **126**, 83

Lipid peroxidation; Oxidative damage; Fumonisin B_1; Rat hepatocytes; Rat liver, **131**, 121

Mammary gland

Lysophospholipids; Gangliosides; Melittin; Phospholipids; Phosphorylation; Protein kinase C, **104**, 73

Man

Glutathione; 1,2-Epoxybutene-3; 1,3-Butadiene; Mouse; PBPK model; Rat; Species extrapolation, **113**, 40

Immunotoxicity testing; Immunotoxicology; Immunosuppression; Biomarkers; Rodent, **129**, 13

Mouse; Rat; Physiological toxicokinetic model; Toxicokinetics; 2-Methyl-1,3-butadiene; Isoprene; Endogenous production, **113**, 278

Manganese

Copper; Zinc; Lead; Vanadium; Aluminum; Silver; Arsenic; Development; Metal; Preimplantation embryo; Iron; Cadmium; Mercury; Chromium, **116**, 123

Iron; Aluminum; Mice; Lactation; Milk, **109**, 111

Iron; Copper; Chromium; Acetaldehyde; Formaldehyde; Metals; Oxidative damage; DNA-protein cross-links; Vanadium, **110**, 1

Mannan

Cereals; Isolated cells; Fetal intestines; Toxicity screening; In vitro toxicology; Prolamin peptides; Gliadin peptides; Gluten sensitive enteropathies; Coeliac disease; Oligomers of *N*-acetyl-glucosamine; Spermidine; Spermine; A-gliadin; Novel foods; Genetically-modified plant foods, **132**, 99

MAP kinase module

Insecticide; Heptachlor; Human immune cells; ERK 1 and 2, MAP kinases of 44 and 42 kDa, also referred to as extracellular signal-regulated protein kinases; MAP, mitogen-activated protein; MAPK, MAP kinase; MEK, MAPK kinase or ERK kinase; MEKK, MEK kinase; PAGE, polyacrylamide gel electrophoresis; PBMC, peripheral blood mononuclear cells, **128**, 17

MAP, mean arterial pressure

ECG, electrocardiogram; BNZ, benactyzine; AChE, acetylcholinesterase; ACh, acetylcholine; Rat; Circulation; Respiration; Benactyzine; HI-6; Cholinergic–anticholinergic pretreatment; Soman; MRV, minute respiratory volume; OP, organophosphate; RR, respiratory rate; THP, trihexyphenidyle, **128**, 1

MAP, mitogen-activated protein

ERK 1 and 2, MAP kinases of 44 and 42 kDa, also referred to as extracellular signal-regulated protein kinases; Human immune cells; MAP kinase module; Insecticide; Heptachlor; MAPK, MAP kinase; MEK, MAPK kinase or ERK kinase; MEKK, MEK kinase; PAGE, polyacrylamide gel electrophoresis; PBMC, peripheral blood mononuclear cells, **128**, 17

MAPK, MAP kinase

MAP, mitogen-activated protein; ERK 1 and 2, MAP kinases of 44 and 42 kDa, also referred to as extracellular signal-regulated protein kinases; Human immune cells; MAP kinase module; Insecticide; Heptachlor; MEK, MAPK kinase or ERK kinase; MEKK, MEK kinase; PAGE, polyacrylamide gel electrophoresis; PBMC, peripheral blood mononuclear cells, **128**, 17

Marine compounds

Intracellular signaling; Calcium; Nitric oxide; Rat brain, **129**, 103

Markers of toxicity

Urine; Aflatoxin B1; Hepatic toxicity; Taurine, **118**, 159

Marmosets

Pharmacokinetics; Soman; Behavioural incapacitation; HI-6; Acetylcholinesterase; Repeated dose; Guinea pigs, **112**, 183

Mast cells

IL-8; IL-4; IL-3; Dexamethasone; Cyclosporin A, **116**, 211

Histamine release; Passive cutaneous anaphylaxis; PCA; Pesticides; TNF-α, **126**, 41

Ketanserin; Sensory nerves; Capsaicin; Prostaglandins; Epithelium; NK1 receptors; Compound 48/80; Trachea; Intrapulmonary bronchus, **122**, 101

Mercuric chloride; Cytokines; MHC class II; Chemical-induced autoimmunity, **104**, 179

Maternal blood

Tobacco smoke; Hemoglobin adducts; 4-Aminobiphenyl; Fetal blood, **107**, 209

Mathematical modelling

Risk assessment; Chemical mixtures, **105**, 157

Mathematical models

Methylprednisolone; Prednisolone, **102**, 189

PGST; Placental glutathione S-transferase, **102**, 161

TCDD; 2,3,7,8-tetrachlorodibenzo-p-dioxin; Transforming growth factor beta 1; TGF-β, **102**, 223

Toxicokinetics; Chemical mixtures; Chemical exposure, **105**, 209

Maximally tolerated dose

Colchicine; Carbon tetrachloride; Dose-response; Mitosis; Necrosis; Tissue repair, **118**, 181

Maximization test

Anaphylaxis; Antigenic potential; β-Lactam antibiotic; Guinea pigs, **123**, 147

Maximum tolerated doses

Thioacetamide; Dose-response for tissue repair; Carbon tetrachloride; Chlordecone; Tissue repair; Risk assessment, **105**, 251

MC540, merocyonine 540

PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene, **128**, 151

MCA, methylcholanthrene

MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage, **128**, 151

MCF-7 cells

Antiestrogenic; Endocrine-disruptors; Polycyclic aromatic hydrocarbons; Estrogen receptor, **133**, 115

Estrogen receptors; Estrogen bioassay; Progesterone receptors; Toxaphene congeners, **138**, 69

MCP-1

Diisocyanate; Occupational asthma; Chemokine; Histamine releasingfactors; RANTES, **111**, 191

MCT, monocarboxylate transporter

MD, microdialysis; BBR, brain-to-blood ratio; Al, aluminum; Transport; Monocarboxylate transporter; Microdialysis; Blood–brain barrier; Aluminum citrate; FCCP, *p*-(trifluoromethoxy)phenylhydrazone; 4-TMA-AP, 4-trimethylammonium-antipyrine, **127**, 59

MD, microdialysis

BBR, brain-to-blood ratio; Al, aluminum; Transport; Monocarboxylate transporter; Microdialysis; Blood–brain barrier; Aluminum citrate; MCT, monocarboxylate transporter; FCCP, *p*-(trifluoromethoxy)phenylhydrazone; 4-TMA-AP, 4-trimethylammonium-antipyrine, **127**, 59

MDA, malondialdehyde

Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide, **126**, 55

MDCK cells

Ochratoxin A; Collecting duct; Kidney; Dipeptide transport; Aspartame; Organic anion transport; BCECF; Phorbol ester; EIPA, **131**, 193

Protein binding; Kidney; Ochratoxin A; OK cells, **114**, 177

Mechanism

Chemical warfare agent; Neuron culture; Nitric oxide, NO; Nitric oxide synthase, NOS; L-nitroarginine methyl ester, L-NAME; Protection; Sulphur mustard, bis (2-chloroethyl) sulphide, HD; Toxicity, **131**, 21

Risk assessment; Chloroform; Formaldehyde; Cancer; Non-cancer, **102**, 179

Mechanism of action

Hexachlorobenzene; Protein tyrosine kinase; Epidermal growth factor receptor; Membrane protein phosphorylation, **125**, 83

Mechanisms

5-FU; 5-fluorouracil; Mechanistic modeling; Developmental toxicity; Biologically-based dose-response, **102**, 207

Mechanistic modeling

Mechanisms; 5-FU; 5-fluorouracil; Developmental toxicity; Biologically-based dose-response, **102**, 207

Mechanistic models

Cross-species extrapolation; Dosimetry; Pharmacokinetics; Allometric scaling, **102**, 95

Medial injury

Lysyl oxidase; Lathyrism; Heart; Aorta; Allylamine; β-Aminopropionitrile; Rat; Semicarbazide-sensitive amine oxidase; Vascular toxicity, **138**, 137

Mediators

Cyanide antidotes; Piperazines; Hypoxia; PKC inhibitors; Protein kinase C, **100**, 129

Medicinal products

Immunotoxicity evaluation; Hypersensitivity reactions; Animal models; Allergy, **129**, 27

Megakaryopoiesis

Recombinant human interleukin-6; Interleukin-6; Immune response; Acute phase reaction, **105**, 91

MEIC

Risk assessment; Human cell lines; Cytotoxicity; MTS assay, **124**, 179

MEK, MAPK kinase or ERK kinase

MAPK, MAP kinase; MAP, mitogen-activated protein; ERK 1 and 2, MAP kinases of 44 and 42 kDa, also referred to as extracellular signal-regulated protein kinases; Human immune cells; MAP kinase module; Insecticide; Heptachlor; MEKK, MEK kinase; PAGE, polyacrylamide gel electrophoresis; PBMC, peripheral blood mononuclear cells, **128**, 17

MEKK, MEK kinase

MEK, MAPK kinase or ERK kinase; MAPK, MAP kinase; MAP, mitogen-activated protein; ERK 1 and 2, MAP kinases of 44 and 42 kDa, also referred to as extracellular signal-regulated protein kinases; Human immune cells; MAP kinase module; Insecticide; Heptachlor; PAGE, polyacrylamide gel electrophoresis; PBMC, peripheral blood mononuclear cells, **128**, 17

Melatonin

TCDD; 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin; Metabolism; Rat strains, **107**, 85

Chromosome aberrations; Carbamazepine; Sister chromatid exchanges; Mutagenicity, **125**, 45

Melittin

Mammary gland; Lysophospholipids; Gangliosides; Phospholipids; Phosphorylation; Protein kinase C, **104**, 73

Melphalan

Nitromin; Cyclophosphamide; Histology; Spleen; Rats; Immunotoxicity; Chlorambucil, **107**, 47

Membrane

Inhibition; Red blood cells; Transport; Calcium; Zinc, **133**, 139

Membrane fluidity

Cytotoxicity; Cell permeability; ARDS; Tight junction; Tricyclic antidepressants, **136**, 1

Membrane potential

Calcium; Mitochondrial; Kidney; Cyclosporin A; Cisplatin; Nephrotoxicity, **114**, 11

Membrane protein phosphorylation

Epidermal growth factor receptor; Protein tyrosine kinase; Mechanism of action; Hexachlorobenzene, **125**, 83

Menadione

Apoptosis; Cardiotoxicity; Renal toxicity, **124**, 193

Ethacrynic acid; Thioether conjugates; Renalproximal tubular cells; Transepithelial transport; Metabolism, **112**, 117

γ-Glutamylcysteine synthetase; Glutathione, **112**, 45

Mercapturic acids

Diepoxybutane; Butadiene monoxide; 1,3-Butadiene; DNA adducts; Myeloperoxidase; Cytochrome P450; GSH-S-transferases, **113**, 23

Mercuric chloride

Mast cell; Cytokines; MHC class II; Chemical-induced autoimmunity, **104**, 179

Mercury

Apoptosis; Mitochondrial membrane permeability transition; Glutathione, **124**, 211

Cadmium; Iron; Manganese; Copper; Zinc; Lead; Vanadium; Aluminum; Silver; Arsenic; Development; Metal; Preimplantation embryo; Chromium, **116**, 123

Elemental mercury; Mercury vapor; Ethanol; Guinea pig; Fetal liver; Metallothionein, **119**, 193

Heavy metals; Coelomocyte; Lumbricusterrestris; Earthworms; Cadmium; Lead; Zinc; Immunotoxicity; Phagocytosis; Environmental pollution; Risk assessment; Environmental health; Invertebrates, **109**, 157

HeLa cell culture; Copper; Cadmium; Metal ions; Redox status; Silver; Thiols, **117**, 89

Hep G2 cell line; HeLa cell line; Endothelial cell line; Copper; Cadmium; Metal ions; Thiols, **126**, 203

Herpes simplex virus type2; Virus; Macrophage; Interferonβ; Cytokine, **114**, 57

Mercury accumulation

Mercury vapour; Squirrel monkeys; Retina; Pigmented epithelium, **107**, 189

Mercury chloride

Lead acetate; δ-aminolevulinate dehydratase; Brain development; Postnatal development, **100**, 27

Mercury toxicity

Cadmium toxicity; Human fetal cell line; Cytotoxicity; WRL-68 cells; Metallothionein, **102**, 285

Mercury vapour

Elemental mercury; Mercury; Ethanol; Guinea pig; Fetal liver; Metallothionein, **119**, 193

Purkinje cell loss; GFAP-positive cell; Gliosis; Brown Norway rat, **104**, 83

Squirrel monkeys; Mercury accumulation; Retina; Pigmented epithelium, **107**, 189

Mercury-binding proteins

Inorganic mercury; Methylmercury; Milk; Plasma, **137**, 169

Mercury-induced autoimmunity

Xenobiotics; BN rats; LEW rats; Laminin 1; IgG isotypes; RT6+ T lymphocytes, **125**, 215

***Meso*-2,3-dimercaptosuccinic acid**

Diethyldithiocarbamate; N-Benzyl-d-glucaminedithiocarbamate; Chelate effect; Testicular toxicity; Nickel, **103**, 147

Homeostasis; Calcium; Lead, **134**, 19

Meso-2,3-dimercaptosuccinic acid (DMSA)

Immunotoxicity; Lead acetate, **132**, 67

Mesolimbic system

Formalin; Formaldehyde; Chemical sensitivity; Sensitization, **111**, 135

Metabolic polymorphism

Individual sensitivity; Hemoglobin adducts; Chromosomal aberrations; Butadiene, **113**, 77

Metabolism

1,3-Butadiene; Butadiene monoepoxide; Butadiene diepoxide, **123**, 123

ATP depletion; Cytotoxicity; Cardiomyocytes; Doxorubicin; Daunorubicin, **104**, 1

Cytochrome P450; MX; 3-chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone; Water chlorination; Rat; Kidney, **100**, 121

Cytotoxicity; Rat hepatocytes; Vitamin E; Vitamin C; Glutathione; Valproic acid, **112**, 69

Glutathione conjugation; 1,2:3,4-Diepoxybutane; Carcinogenicity; 1,3-Butadiene, **113**, 297

Hamster; Cytochrome P-450; Phenobarbital; Toxicity; Triphenyltin, **137**, 151

Interaction; Inhibition; Enhancement; Halothane; Isoflurane, **104**, 123

Lung; 1,3-Butadiene; Rats; Mice, **113**, 314

Melatonin; TCDD; 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin; Rat strains, **107**, 85

Microsomes; Liver; Lung; Pyridine; Benzene, **104**, 53

Narcosis; Pentobarbital; Empenthrin, **108**, 185

Nephrotoxicity; Rats; Succinimide, **117**, 73

Pharmacokinetics; 1,3-Butadiene, **113**, 14

Renal cortical tubule cells; *N*-(3,5-Dichlorophenyl)-succinimide; Cytotoxicity; Nephrotoxicity, **104**, 9

Risk assessment; 1,3-Butadiene; Physiologically based toxicokinetic models, **113**, 48

Toxicity; Selenite; Absorption; Hepatocytes, **100**, 151

Transepithelial transport; Renalproximal tubular cells; Thioether conjugates; Ethacrynic acid; Menadione, **112**, 117

Xenobiotic; Heterologous expression; Antibody; *E. coli*; Human CYP, **106**, 207

Metabolism in vivo

Toxicokinetics; Isoprene, **113**, 273

Metabolite

Ketoconazole; Hepatotoxicity; Hepatocytes; Flavin-containing monooxygenases; Azole derivatives; Methimazole; N-Deacetyl ketoconazole; n-Octylamine; Primary cultures, **117**, 123

Metadatabank

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2-Methoxyacetic acid

2-Methoxyacetaldehyde; Lymphocytes; Immunosuppression; Hepatocytes; Antibody response; 2-Methoxyethanol; Rats; Mice, **123**, 227

2-Methoxyethanol; Mini-osmotic pump; Rats; Mice; Immunosuppression, **109**, 67

2-Methoxyethanol

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Methyl 1-(butylcarbamoyl)-2-benzimidazole-carbamate

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3-MC=3-methylcholanthrene

PB=phenobarbital; HC=hydrocortisone acetate; TCDD=2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT=L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT=L-serine dehydratase; TAT=L-tyrosine aminotransfer-

ase; 3-Methylcholanthrene; Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney, **126**, 127

3-Methylcholanthrene

Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital; HC=hydrocortisone acetate; TCDD=2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT =L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT= L-serine dehydratase; TAT=L-tyrosine aminotransferase, **126**, 127

Methyliodide

Olfactory; Glutathione *S*-transferase; Cytochrome P450; Covalent binding, **129**, 169

Methyl mercury

Inorganic mercury; Zinc; Neurotoxicity; Metallothionein; Cultured neurons, **132**, 167

Perinatal exposure; Immunotoxicity, **114**, 163

Methyl vinyl ketone

tert-Butyl-hydroperoxide; Primary cell culture; Distal tubules; Proximal tubules; Kidney cells; *para*-Aminophenol, **103**, 85

2-Methyl-1,3-butadiene

Isoprene; Toxicokinetics; Physiological toxicokinetic model; Rat; Mouse; Man; Endogenous production, **113**, 278

Methylation

Inorganic arsenic; Disposition; Cancer; Polymorphisms, **137**, 95

Methylcholanthrene

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Methylene blue

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Brain; Tubulin tyrosination; Detyrosination, **122**, 171

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Dietary protein; Acute toxicity; Hepatotoxicity; Nephrotoxicity; Susceptibility, **112**, 11

Mercury-binding proteins; Inorganic mercury; Milk; Plasma, **137**, 169

Nitric oxide; Nitric oxide synthase; Endothelial cell, **103**, 1

Perinatal exposure; Comparative human studies; Risk assessment, **111**, 157

Methylmercury chloride

Developmental toxicity; Mice; Monoisoamyl *meso*-2,3-dimercaptosuccinate; Preventive effect, **106**, 93

Methylphenidate hydrochloride

Ritalin; Carcinogenesis; Toxicology; F344/N rats; B6C3F1 mice, **103**, 77

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Mathematical models; Prednisolone, **102**, 189

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Penicillin; Nickel; TNP; Peptide; Recognition; Receptor, **107**, 141

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Cytokines; Mercuric chloride; Mast cell; Chemical-induced autoimmunity, **104**, 179

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DNA fragmentation; Programmed cell death; Apoptosis; Cadmium; Testes (rat), **107**, 1

MIC, minimal inhibitory concentration

MALDI-MS, matrix-assisted laser-desorption ionization mass spectrometry; MAC, minimal agglutinating concentration; Prolamines; Peptides; A-Gliadin; Durum wheat; Cells; Coeliac disease; PT digest, peptic–tryptic digest, **127**, 97

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Carcinogenesis; Hemangiosarcoma; Hepatocellular carcinoma; Piperonyl butoxide, **124**, 95

Carcinogenesis; Toxicity; Nickel, **107**, 131

Developmental toxicity; Methylmercury chloride; Monoisoamyl *meso*-2,3-dimercaptosuccinate; Preventive effect, **106**, 93

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Rats; Mini-osmotic pump; 2-Methoxyacetic acid; 2-Methoxyethanol; Immunosuppression, **109**, 67

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Diesel exhaust particles; Immunoglobulin; Airway inflammation, **122**, 183

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Hepatotoxicity; Phosphatase; Organic ion transporter, **106**, 123

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DNAdamage; DNA unwinding; DNA strandbreaks; Genotoxicity, **114**, 29

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Blood–brain barrier; Aluminum citrate; Monocarboxylate transporter; Transport; Al, aluminum; BBR, brain-to-blood ratio; MD, microdialysis; MCT, monocarboxylate transporter; FCCP, *p*-(trifluoromethoxy)phenylhydrazone; 4-TMA-AP, 4-trimethylammonium-antipyrine, **127**, 59

Blood-brain barrier; Monocarboxylic acid transporter; Aluminum citrate; Transport, **120**, 89

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Potassium; Sodium; Urinary excretion; Environmental cadmium, **127**, 187

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Microsomes

Cytochrome P450; Hepatocytes; Cadmium chloride; Carbon tetrachloride; Gadolinium chloride, **121**, 143

Liver; Lung; Pyridine; Benzene; Metabolism, **104**, 53

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Dimethylarsinic acid; Centrosome; γ-Tubulin; Multipolar spindle, **136**, 79

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Allergy; Saponin; Intestine; Permeability; Sensitisation, **117**, 219

Lactation; Mice; Aluminum; Iron; Manganese, **109**, 111

Methylmercury; Mercury-binding proteins; Inorganic mercury; Plasma, **137**, 169

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2-Methoxyacetic acid; 2-Methoxyethanol; Rats; Mice; Immunosuppression, **109**, 67

Minophagen

Glycyrrhizin; Glycine; Cadmium; Nephrotoxicity; Hepatotoxicity; Lipid peroxidation; Glutathione., **132**, 139

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Aging; Rat; Myocardium; Necrosis; Inflammation; Arteritis; Hemorrhage, **110**, 71

Mitochondria

Ovary; Porcine; Cytochrome P450; 12-dimethylbenz-(a)anthracene; 7, **122**, 11

Panadiplon; Hypoxia; Hepatocyte; Glycogen; Anxiolytic, **108**, 9

Panadiplon; Rhodamine 123; β-oxidation; Cyclopropane carboxylic acid; Liver; Rabbit; Human, **131**, 33

Mitochondrial

Kidney; Cyclosporin A; Cisplatin; Calcium; Membrane potential; Nephrotoxicity, **114**, 11

Mitochondrial damage

Cytotoxicity; Rabbit; Renal proximal tubules; Paraquat, **122**, 123

Mitochondrial dysfunction

Cytotoxicity; Propyl gallate; ATP depletion; Hepatocytes; Antioxidant, **114**, 135

Mitochondrial membrane permeability transition

Apoptosis; Mercury; Glutathione, **124**, 211

Mitochondrial membrane potential

Cocaine; Primary cultures of myocardial cells; Fluorescence microscopy, **112**, 1

Protection; Cell injury; Trifluoperazine; Fructose; Cyclosporin A; Paracetamol; $TPMP^+$, **107**, 201

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Maximally tolerated dose; Colchicine; Carbon tetrachloride; Dose-response; Necrosis; Tissue repair, **118**, 181

Mitoxantrone

Lipophilicity; Idarubicin; Epirubicin; Carminomycin; Non-toxicity area, **135**, 11

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Hearing loss; Trichloroethylene; Toluene; Xylene; Chlorobenzene, **105**, 345

Interactions; Tissue slices; Interspecies, **105**, 285

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MK-801 (dizocilpine)

l-2-Chloropropionic acid; Cerebellar granule cell necrosis, **123**, 41

MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo-(a,d)-cyclohepten-5,10-imine hydrogen maleate

MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydrogenase, **128**, 113

MMS, methyl methanesulfonate

MNU, methylnitrosourea; NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or

differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid, **127**, 49

MNU, methylnitrosourea

NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate, **127**, 49

Model

Simulation; Evacuation; Fractional effective dose; Expert-system, **115**, 63

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Biomechanics; Injury; Blast overpressure, **121**, 91

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Molecular biology

Immunohistochemistry; Immunoassay; Flow cytometry; Cytokines; Bioassay, **129**, 55

Molecular epidemiology

Pollution; Industrial region; Environmental carcinogen; Biological marker; Central and Eastern Europe, **101**, 117

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CYP2A6; Coumarin 7-hydroxylase; Substrate selectivity, **133**, 1

QSAR; Omeprazole, **125**, 31

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Harmol; α-Naphthol, **127**, 121

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Exposure/effectassessment; Occupational hazards; Carcinogen-DNA adduct analysis; Non-invasive biomarkers, **111**, 207

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Monocarboxylate transporter

Microdialysis; Blood–brain barrier; Aluminum citrate; Transport; Al, aluminum; BBR, brain-to-blood ratio; MD, microdialysis; MCT, monocarboxylate transporter; FCCP, *p*-(trifluoromethoxy)phenylhydrazone; 4-TMA-AP, 4-trimethylammonium-antipyrine, **127**, 59

Monocarboxylic acid transporter

Aluminum citrate; Blood-brain barrier; Microdialysis; Transport, **120**, 89

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TNF-α; CD3; CD4; Lymphocyte function associated antigen-1; Lipopolysaccharides, **100**, 213

Monoclonal antibody

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Inflammation; β-Carotene; Pathology; Right ventricular hypertrophy, **137**, 69

Monodeiodinase

Type-I iodothyronine 5′; Lead; Tocopherol acetate; Thyroxine; Triiodothyronine; Lipid peroxidation; Antioxidant enzymes, **124**, 203

Monofunctional mustard

Vesicant; Sulfur mustard derivatives; 4-Carboxybutyl 2-chloroethyl sulfide; 10- Carboxydecyl 2-chloroethyl sulfide, **108**, 125

Monoisoamyl *meso*-2,3-dimercaptosuccinate

Mice; Developmental toxicity; Methylmercury chloride; Preventive effect, **106**, 93

Monomethylselenol

Selenium; Trimethylselenonium ion; HPLC/ICP-MS; Se-distribution; Stable isotope tracer, **103**, 157

Monooxygenase activities

Cytochrome P450 isoenzymes; n-Butylisocyanate; Carbendazim; HepG2 cell line, **123**, 135

Monooxygenases

Acetylcholinesterase; Parathion; Arsenic; CYP2B1; CYP2B2, **116**, 59

Monoterpenes

CYP2B subfamily; Cytochrome P450; Essential oils; Xenobiotic metabolism; Drug interactions, **124**, 135

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Monte Carlo

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Sensitive populations; Reproductive and developmental toxicity; Risk assessment; Trichloroethylene, **111**, 271

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Methadone; Immune function; Wistar rat, **129**, 201

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Histopathological changes; Kidney lesions; Liver lesions; Treatment-related alterations, **107**, 17

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Liver; Electron microscopy; 3,3′,4,4′,5-Pentachlorobiphenyl; PCB 126; Rat, **136**, 107

Liver; Rat; 3,3′,4,4′-Tetrachlorobiphenyl; PCB 77, **127**, 179

Ozone; Acid aerosols; Air pollution; Collagen; Lung, **116**, 133

Mortality

Cancer; Epidemiology; Butadiene, **113**, 157

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Learning; Hypothyroid; Hippocampus; PCB, **138**, 11

Mother

δ-Aminolevulinate dehydratase; Lead poisoning; Newborn; Toxicological threshold; Epidemiology, **134**, 143

Motor activity

Behavioral thermoregulation; Temperature gradient; Temperature regulation; Hypothermia; Hyperthermia; Fever, **124**, 165

Motor nerve conduction velocity

Inhalation exposure; Histopathology; Electrophysiology; Distal latency; 2-Bromopropane; Peripheral neurotoxicity, **135**, 87

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Phosphatase; Phosphorylation; Neurofilament; Aluminum neurotoxicity, **108**, 17

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Benzene; Immunotoxicity; Inhalation; Proliferation; Apoptosis; Lymphocytes, **118**, 137

Flowcytometry; Spermatogenesis; Vinblastine, **112**, 227

Fusarenon-X; Apoptosis; Thymocyte; Mycotoxin; Immunotoxicity; Flow cytometry, **127**, 195

Interleukin-10; Niacinamide; Immunotherapy; Staphylococcal enterotoxin, **107**, 69

Man; Glutathione; 1,2-Epoxybutene-3; 1,3-Butadiene; PBPK model; Rat; Species extrapolation, **113**, 40

Rat; Developmental toxicity; Diphenyl ethers, **121**, 191

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Mouse carcinogenicity

Ras activation; Liver tumors; *Ras* proto-oncogene, **101**, 125

Mouse skin

DNA adducts; ^{32}P-postlabeling; Diene diepoxides; 4-Vinyl-1-cyclohexene; 1,3-Butadiene, **113**, 341

Mouse strain differences

Liver nuclei; In vitro tryptophan binding, **118**, 37

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Striatum slices; Dopamine uptake; Lipid peroxidation, **122**, 93

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Cytochrome P450 2E1; Cytochrome P450 1A2; Cytochrome P450 reductase; Cytochrome P450; Recombinant interleukin-1α; Aniline hydroxylase; Benzphetamine N-demethylase; 7-ethoxycoumarin O-deethylase, **114**, 37

IL-6;TNFα; Interleukin(IL); IL-1β; Cytokine; WEHI-3 macrophage cell line; Clopiazonic acid; Immunotoxicity; Mycotoxin, **114**, 67

MRV, minute respiratory volume

MAP, mean arterial pressure; ECG, electrocardiogram; BNZ, benactyzine; AChE, acetylcholinesterase; ACh, acetylcholine; Rat; Circulation; Respiration; Benactyzine; HI-6; Cholinergic–anticholinergic pretreatment; Soman; OP, organophosphate; RR, respiratory rate; THP, trihexyphenidyle, **128**, 1

MT-I overexpressor transgenic mouse

MT-I/MT-II gene knockout mouse; Zinc and copper; Metallothionein; Toxic milk mutant mouse, **124**, 1

MT-I/MT-II gene knockout mouse

Zinc and copper; Metallothionein; MT-I overexpressor transgenic mouse; Toxic milk mutant mouse, **124**, 1

MTS assay

Cytotoxicity; Human cell lines; Risk assessment; MEIC, **124**, 179

MTT

Lung; Tissue culture; Sulphur mustard, bis-(2-chloroethyl)sulphide, HD; Histopathology; Toxicology, **100**, 39

MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide

NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate, **128**, 113

Mucochloric acid

MX; Rainbow trout; Hepatocytes; Gill epithelial cells; Calcein AM; Rubidium leakage; Toxicity assessment; *Daphnia magna*, **100**, 69

Multiple Chemical Sensitivity (MCS)

Kindling; Neuralsensitization; Behavioral sensitization; Neuralpotentiation; Animal models, **111**, 87

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Microtubule; Dimethylarsinic acid; Centrosome; γ-Tubulin, **136**, 79

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Multistage model

Monte Carlo; Likelihood ratio; Conservatism; Bootstrap; Additivity, **105**, 199

Multivariate analysis

Analysis of covariance; Organ weight; Statistical power; Toxicity studies, **136**, 67

Murine embryo-hepatocyte co-culture model

Cyclophosphamide; Embryopathy; Embryotoxicity; Proteratogens; Bioactivating system, **102**, 259

Murine local lymph node assay

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Muromonab CD3

Orthoclone OKT3; Monoclonal antibody; Side-effects; Immunosuppressive agents, **105**, 23

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Lymph node; Immunohistochemistry; Heart; Food mutagen; Endothelium; CYP1A1; Uterus, **129**, 145

Mushroom

Bolesatine; *Boletus satanas*; Toxic protein; Inhibition of protein synthesis; SP2/O cells; Thymic lymphosarcoma, **103**, 121

Mushroom toxicity

ATPase; GTPase; Eukaryotic ribosomes; *Boletus satanas*; Bolesatine, **100**, 51

Mutagenesis

Toxicological mechanisms; Biologically based dose response models; Quantitative risk assessment; Ames assay; Carcinogenesis; Multi-stage model; Two-stage clonal expansion model; Developmental toxicity; Dirichlet-multinomial model; Physiologically based pharmacokinetics; Receptor-binding, **102**, 53

Mutagenic chemicals

Ultraviolet light; X-rays; Genetic susceptibility; Safety factors, **111**, 331

Mutagenicity

Ah receptor; Cytochrome P450; Diaminonaphthalenes; Ames test; CYP1A, **118**, 115

Cytochrome P450; Chemical carcinogenesis; Bioactivation; Aromatic amines, **134**, 127

Sister chromatid exchanges; Melatonin; Chromosome aberrations; Carbamazepine, **125**, 45

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Co-administration; Flavonoids; BHT; BHA; P450, **122**, 61

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3-chloro-4-(dichloromethyl)-5-hydroxy-2-(5*H*)-furanone;Water chlorination; Cytochrome P450; Metabolism; Rat; Kidney, **100**, 121

3-Chloro-4-(dichloromethyl)-5-hydroxy-2[5*H*]-furanone; Urine mutagenicity; Micronucleus; Thioether and D-glucaricacid excretion; Xenobiotic metabolism, **110**, 59

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Mycotoxin

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Myeloperoxidase

DNA adducts; Mercapturic acids; Diepoxybutane; Butadiene monoxide; 1,3-Butadiene; Cytochrome P450; GSH-S-transferases, **113**, 23

Myocardium

Rat; Aging; Minoxidil; Necrosis; Inflammation; Arteritis; Hemorrhage, **110**, 71

N

_N_-(5-vinyl-1,3-thiazolidin-2- ylidene)phenylamine

Intracellular calcium; Reactive oxygen metabolites; Toxic oil syndrome; Polymorphonuclear leukocytes, **100**, 195

N-(trichloromethylthio)cyclohex-4-ene-1

Captan; Caenorhabditiselegans; Stressresponse; Biomonitor; 2-dicarboximide; Fungicide, **109**, 119

_N_-3,5-Dichlorophenyl)succinimide

Renal cortical tubule cells; Metabolism; Cytotoxicity; Nephrotoxicity, **104**, 9

NAC

Lead toxicity; CHO; Oxidative stress; Glutathione; LPO, **108**, 57

Oxidative stress; Lead; Succimer; Red blood cells, **128**, 181

N-Acetyl-β-D-glucosaminidase (NAG)

Isoenzymes; Renal cultured cells, **103**, 37

N-acetylcysteine

Cimetidine; Paracetamol; Liver damage; Toxicity; Glutathione, **121**, 223

Lymphocytes; Immunmodulation; Mitogens; Protective effects, **116**, 219

NAD(P)H quinone oxidoreductase

Glutathione S-transferase; Triethyl lead effects, **117**, 61

NADPH, reduced nicotinamide adenine dinucleotide phosphate

DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid, **128**, 53

Naphthalene

Toxicity; 1-Naphthol; Naphthalene 1; 2-epoxide; Naphthoquinones; CYP2E1, **114**, 233

Naphthalene 1

1-Naphthol; Naphthalene; Toxicity; 2-epoxide; Naphthoquinones; CYP2E1, **114**, 233

β-Naphthoflavone

P450 induction in rats; DNA modifications; I-compounds; ^{32}P-postlabeling, **104**, 165

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1-Naphthol

Naphthalene; Toxicity; Naphthalene 1; 2-epoxide; Naphthoquinones; CYP2E1, **114**, 233

Naphthoquinones

2-epoxide; Naphthalene 1; 1-Naphthol; Naphthalene; Toxicity; CYP2E1, **114**, 233

α-Naphthylisothiocyanate

Glutathione; Leukotrienes; Zileuton; A63162; Liver injury; Hepatotoxicity; Inflammation, **100**, 139

NAPQI

Analgesic; Paracetamol; Liver injury; Adenosine triphosphate levels, **104**, 91

NAPQI, *N*-acetyl-*p*-benzoquinonimine

UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione, **128**, 53

Narcosis

Pentobarbital; Empenthrin; Metabolism, **108**, 185

Pentobarbital; Pyrethroids, **106**, 131

Nasal

Local toxicity; Intranasal; Toxicology; Vaccination, **107**, 61

Nasal pathology

Olfaction; Rat; Chloroform; Hyposmia, **122**, 39

Natural killer cells

Cypermethrin; Pyrethroid; Insecticide; Developmental immunotoxicity; Cytotoxicity, **120**, 231

Humoral immunity; Cellular immunity; Lead, **109**, 167

N-Benzyl-d-glucaminedithiocarbamate

Chelate effect; Testicular toxicity; Nickel; Diethyldithiocarbamate; meso-2,3-Dimercaptosuccinic acid, **103**, 147

n-Butylisocyanate

Carbendazim; Cytochrome P450 isoenzymes; Monooxygenase activities; HepG2 cell line, **123**, 135

***n*-Butyrate**

12-*O*-tetradecanoyl phorbol-13-acetate; Virus induction; Epstein–Barr virus; Smokeless tobacco; Fluorescence-activated cell sorter flow cytometry, **133**, 35

N-Deacetyl ketoconazole

Methimazole; Metabolite; Ketoconazole; Hepatotoxicity; Hepatocytes; Flavin-containing monooxygenases; Azole derivatives; n-Octylamine; Primary cultures, **117**, 123

Necrosis

Apoptosis; Semiconductors; Arsenic; Indium, **118**, 129

Mitosis; Maximally tolerated dose; Colchicine; Carbon tetrachloride; Dose-response; Tissue repair, **118**, 181

Myocardium; Rat; Aging; Minoxidil; Inflammation; Arteritis; Hemorrhage, **110**, 71

Necrosis induction

Cadmium; Syrian hamster; Amyloidosis; Testicular tumor, **126**, 173

Negative selection

Immunotoxicology; Thymus; 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD); Hepatic mononuclear cells, **103**, 195

Neonate

Fetus; F344 rat; 2,3,7,8-Tetrachlorodibenzo-p-dioxin, **122**, 219

Neoplasms

Mortality; Longitudinal studies; Environmental; Carcinogens; Occupational diseases; Rubber manufacturing; Butadiene; Lymphohematopoietic cancer, **113**, 169

Neoplastic phenotype

Lung epithelial cell lines; Differentiation, **123**, 53

Nephrotoxicity

α_{2u}-Globulin; Indicator; α_{2u}-Globulin nephropathy; Hyaline droplet, **106**, 149

Aminophenols; Halogenated hydrocarbons; Rats, **110**, 47

Atrial natriuretic peptide; Cisplatin; Platinum, **106**, 159

Bone density; Caloric restriction; Chronic exposure; Metallothionein; Cadmium; Osteotoxicity, **133**, 93

Cadmium; Glycine; Glycyrrhizin; Minophagen; Hepatotoxicity; Lipid peroxidation; Glutathione., **132**, 139

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Cardiotoxicity; Doxorubicin; Losoxantrone; Piroxantrone; Reactive oxygen species; Electronmicroscopy; Iron complexes, **128**, 35

Cephaloridine; Diabetes mellitus; Accumulation, **108**, 93

Cephaloridine; Rats; Diabetes, **100**, 11

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Elongation; Translation; Cyclosporin A metabolites M1 and M17; Cyclosporin A, **100**, 17

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Fungicides; Bioactivation; Rats; Sulfation, **138**, 165

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Halogenated hydrocarbons; Aminophenols; Rats; Aniline compounds, **108**, 109

Halogenated hydrocarbons; Dimethyl sulfoxide; Fungicides; Rats, **100**, 79

Halogenated hydrocarbons; F344 rats; Urinary bladder toxicity, **124**, 125

Hepatotoxicity; Acute toxicity; Dietary protien; Methylmercury; Susceptibility, **111**, 21

Hepatotoxicity; Acute toxicity; Dietary protien; Methylmercury; Susceptibility, **112**, 11

Hydroxysuccinimides; Halogenated hydrocarbons; Rats, **110, 17**

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L-NAME; L-arg; Lead; Nitric oxide, **132**, 119

Membrane potential; Calcium; Mitochondrial; Kidney; Cyclosporin A; Cisplatin, **114**, 11

Metabolism; Rats; Succinimide, **117**, 73

Metallothionein; Zinc; Cadmium; Streptozotocin; Diabetes; Protection, **106**, 55

Rats; Digoxin-specific Fab fragments, **126**, 223

Succinimides; Glutathione; Buthionine sulfoximine, **117**, 207

Succinimides; Structure–nephrotoxicity relationships; Rats; Fungicides, **132**, 127

Sulfation; Rats; Fungicides; Bioactivation, **123**, 1

Thallium sulfate; Amino acid transport; Kidney; Ontogeny; Rats, **106**, 229

Uranyl acetate; Rats; Tiron; DTPA, **118**, 49

NER, nucleotide excision repair

RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea, **127**, 49

Net uptake

Amino acids; Pair-fed; Nutritional status; Liver cirrhosis; Thioacetamide, **132**, 155

Neuralpotentiation

Behavioral sensitization; Neuralsensitization; Kindling; Multiple Chemical Sensitivity (MCS); Animal models, **111**, 87

Neuralsensitization

Kindling; Multiple Chemical Sensitivity (MCS); Behavioral sensitization; Neuralpotentiation; Animal models, **111**, 87

Neurobehavioral and neuromolecular batteries

Behavioral tests; Animal models; Risk assessment; Pharmacokinetic model, **115**, 107

Neuroblastoma

Cytotoxicity; Iodoacetate; Dinitrophenol; In vitro, **110**, 123

Neurofilament

Aluminum neurotoxicity; Phosphorylation; Phosphatase; Motor neuron disease, **108**, 17

Neurokinin A

Substance P; C-fibers; Environmental tobacco smoke, **112**, 195

Neuron culture

Hypothermia; Human skin keratinocyte culture; Hairless guinea pig; Chemical warfare agent; L-nitroarginine methyl ester, L-NAME; Protection; Sulphur mustard, bis(2-chloroethyl) sulphide, HD; Temperature; Toxicity, **134**, 27

Mechanism; Chemical warfare agent; Nitric oxide, NO; Nitric oxide synthase, NOS; L-nitroarginine methyl ester, L-NAME; Protection; Sulphur mustard, bis (2-chloroethyl) sulphide, HD; Toxicity, **131**, 21

Neuropathology

Blast overpressure; Feeding; Exercise; Rats, **121**, 65

Neuroprotective activity

Sarcophytolide; *Sarcophyton glaucum*; Glutamate; Cell death; Calcium, **131**, 133

Neurotoxicity

Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability, **128**, 113

Intracellular free calcium; Cerebellar granule cells; PCBs, **136**, 27

LD_{50}; Biochemical studies; Ascites carcinoma cells; Antitumor activity; Sistrurus Malarius Barbouri crude venom, **137**, 81

Lead intoxication; Free radicals; Antioxidants, **135**, 77

Metallothionein; Developmental toxicity; Dopamine; Dexamethasone; Corpus striatum; Cadmium, **131**, 145

Two-sites analysis; [^{3}H]raclopride; Binding affinity; Dopamine receptor; Styrene; Xylene; Prolactin, **100**, 185

Zinc; Inorganic mercury; Methyl mercury; Metallothionein; Cultured neurons, **132**, 167

Neutral endopeptidase

Tachykinins; Airway hyperresponsiveness; Toluene diisocyanate; Guinea pig, **116**, 17

Neutral red assay

Fibroblasts; Epithelial cells; *S. aureus*; Antibacterial effects; Cytotoxicity; Tea Tree oil; *O*-methylpodocarpic acid; Podocarpic acid; Dehydroabietic acid; Resin acids; Oleoresin, **107**, 99

Lipid peroxidation; Keratinocytes; Free radicals; Benzoyl peroxide; Vitamin E, **106**, 187

Neutropenia

Agranulocytosis; Neutrophil; Clozapine ([8-chloro-11-(4-methyl-1-piperazinyl)-3H-dibenzo (b,e)(1,4) diazepine antipsychotic); T cell, **131**, 67

Neutrophil

Clozapine ([8-chloro-11-(4-methyl-1-piperazinyl)-3H-dibenzo (b,e)(1,4) diazepine antipsychotic); Agranulocytosis; Neutropenia; T cell, **131**, 67

Neutrophils

Platelets; Liver; Lipopolysaccharide; Hepatocellular necrosis, **121**, 181

New chemical entities

Immunotoxicology; Safety assessment; Pharmaceuticals; Inter-laboratory replicaiton; Validation, **119**, 95

Newborn

Mother; δ-Aminolevulinate dehydratase; Lead poisoning; Toxicological threshold; Epidemiology, **134**, 143

NF-κB

Dimethyldithiocarbamate; Human; T lymphocytes, **128**, 83

N-Gas Model

Combustion gases; Toxicant suppressants; Genetic toxicology; Polyurethane foam, **115**, 89

Niacinamide

Immunotherapy; Staphylococcal enterotoxin; Interleukin-10; Mouse, **107**, 69

Nicardipine

Hepatocytes; Calcium channel inhibitors; Nickel uptake; Vasopressin; Verapamil, **124**, 21

Nickel

Testicular toxicity; Chelate effect; N-Benzyl-d-glucaminedithiocarbamate; Diethyldithiocarbamate; meso-2,3-Dimercaptosuccinic acid, **103**, 147

TNP; Penicillin; MHC; Peptide; Recognition; Receptor, **107**, 141

Toxicity; Carcinogenesis; Mice, **107**, 131

Nickel subsulfide

Inhalation; Rat; Histopathology; Bronchoalveolar lavage fluid, **103**, 9

Nickel sulphate

Potassium dichromate; Local lymph node assay (LLNA); BALB/c mice; Cobalt chloride; Beryllium sulphate; Disodium hexachloroplatinate; Oxazolone; Toluene diisocyanate, **120**, 65

Nickel uptake

Nicardipine; Hepatocytes; Calcium channel inhibitors; Vasopressin; Verapamil, **124**, 21

Nicotine

Benzo[*a*]pyrene; Hamster; Buccal mucosa; Receptor; Epidermal growth factor, **107**, 31

Nifedipine

Verapamil; Cardiovascular toxicity; Calcium ion; Theophylline; Diltiazem, **110**, 113

Nitric acid

Lung toxicology; Stress proteins; Heat shock protein 70; Ozone; Inhalation, **107**, 111

Nitric oxide

Deltamethrin; Testes; DNA fragmentation; Apoptosis; Nitric oxide synthase inhibitor, **132**, 1

Lipid peroxidation; EPC-K1; Cerebellar granule cells; Apoptosis; Antioxidants, **134**, 117

Marine compounds; Intracellular signaling; Calcium; Rat brain, **129**, 103

Methylmercury; Nitric oxide synthase; Endothelial cell, **103**, 1

Nephrotoxicity; L-NAME; L-arg; Lead, **132**, 119

Scutellaria baicalensis; Peritoneal macrophages; Staurosporin; Tumor necrosis factor-α, **135**, 109

Nitric oxide synthase

Nitric oxide; Methylmercury; Endothelial cell, **103**, 1

Nitric oxide synthase inhibitor

Nitric oxide; Deltamethrin; Testes; DNA fragmentation; Apoptosis, **132**, 1

Nitric oxide synthase, NOS

Nitric oxide, NO; Neuron culture; Mechanism; Chemical warfare agent; L-nitroarginine methyl ester, L-NAME; Protection; Sulphur mustard, bis (2-chloroethyl) sulphide, HD; Toxicity, **131**, 21

Nitric oxide, NO

Neuron culture; Mechanism; Chemical warfare agent; Nitric oxide synthase, NOS; L-nitroarginine methyl ester, L-NAME; Protection; Sulphur mustard, bis (2-chloroethyl) sulphide, HD; Toxicity, **131**, 21

Nitricoxide

Superoxideanion; Macrophage; Cadmium; Lactate dehydrogenase leakage; DNA damage; Cell viability, **112**, 219

Nitroarenes

Erythrocytes; Protein covalent binding, **108**, 101

Nitroarginine methyl ester, L-NAME

Nitric oxide synthase, NOS; Nitric oxide, NO; Neuron culture; Mechanism; Chemical warfare agent; Protection; Sulphur mustard, bis (2-chloroethyl) sulphide, HD; Toxicity, **131**, 21

L-nitroarginine methyl ester, L-NAME

Neuron culture; Hypothermia; Human skin keratinocyte culture; Hairless guinea pig; Chemical warfare agent; Protection; Sulphur mustard, bis(2-chloroethyl) sulphide, HD; Temperature; Toxicity, **134**, 27

Nitrogen dioxide

Carbon monoxide; Carbon dioxide; Lethality; Correlation, **115**, 157

Inflammation; Exposure model; IC-21 macrophage; LPS; Cytokine gene expression, **104**, 159

Nitromin

Cyclophosphamide; Histology; Spleen; Rats; Immunotoxicity; Melphalan; Chlorambucil, **107**, 47

2-Nitronaphthalene

1-Nitronaphthalene; Paraquat; Vitamin A; Lung injury; Liver injury, **105**, 237

1-Nitronaphthalene

2-Nitronaphthalene; Paraquat; Vitamin A; Lung injury; Liver injury, **105**, 237

2-Nitropropane

8-Epi-prostaglandin $F_2\alpha$; 8-Hydroxydeoxyguanosine; Perchloroethylene; TBARS; Tetrachloroethylene, **138**, 43

Nitroxide free radicals

Spin traps; Electron paramagnetic resonance; Skin irritation; Skin sensitization, **126**, 33

NK

Macrophages; B cells; *p*-Chloronitrobenzene; Nucleated erythrocytes; T cells, **137**, 35

NK activity

p-Chloronitrobenzene; CTL activity; Lymphocyte proliferation; Immunotoxicity; Mice, **127**, 223

NK1 receptors

Epithelium; Prostaglandins; Capsaicin; Sensory nerves; Ketanserin; Mast cells; Compound 48/80; Trachea; Intrapulmonary bronchus, **122**, 101

NMDA, *N*-methyl-D-aspartate

TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenyl-hexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide, **128**, 113

NMR

Creatine; Taurine; Xenobiotic; Adducts; Biomarker, **129**, 1

***N*-nitrosodiethylamine**

Dichlorvos; Ferrous iron; DNA strand breaks; Lipid peroxidation; Hepatocytes, **108**, 49

NO

H_2O_2; Macrophage; Vomitoxin; Cytokine; IL-6; TNF-α; IFN-γ; Trichothecene; Mycotoxin; Endotoxin; LPS; RAW 264.7, **125**, 203

Reactive oxygen species; Cytotoxicity; Actinomycetes; Streptomycetes; Indoor air, **124**, 105

n-Octylamine

N-Deacetyl ketoconazole; Methimazole; Metabolite; Ketoconazole; Hepatotoxicity; Hepatocytes; Flavin-containing monooxygenases; Azole derivatives; Primary cultures, **117**, 123

Non-cancer

Cancer; Formaldehyde; Chloroform; Mechanism; Risk assessment, **102**, 179

Non-cholinergic

Propoxur; PHC; 2-sec-Butylphenyl methylcarbamate; BPMC; Physostigmine; Cholinesterase inhibitor; Cardiovascular, **117**, 163

Non-genotoxic

Urinary bladder tumors; Urinary bladder hyperplasia; Oncogenicity; Tributyl phosphate, **128**, 125

Non-Hodgkin's lymphoma

Leukemia; Epidemiology; 1,3-Butadiene, **113**, 148

Non-human primates

Humanized antibody; Interleukin-6 receptor; Toxicity; Kinetics; Immunogenicity, **122**, 163

Preclinical model; GM-CSF, granulocyte-macrophage colony-stimulating factor; G-CSF, granulocyte colony-stimulating factor; IL-6, interleukin-6; Acute-phase proteins, **101**, 157

Non-invasive biomarkers

Carcinogen-DNA adduct analysis; Occupational hazards; Exposure/effectassessment; Monitoring technique, **111**, 207

Non-malignant disease

Hemoglobin adduct; DNA adduct; Biomarker; Eosinophilic cationic protein, **101**, 99

Non-toxicity area

Mitoxantrone; Lipophilicity; Idarubicin; Epirubicin; Carminomycin, **135**, 11

Norcocaine

Cocaine; Plasma ANP; Cardiovascular toxicity; ANP, atrial natriuretic peptide; NT-ANP, N-terminal peptide of pro ANP; IR-ANP, immunoreactive ANP; IR-NT-ANP, immunoreactive N-terminal ANP, **128**, 101

Norepinephrine release

Chromium; Adrenal medullary cells; Ca^{2+} uptake, **117**, 45

Nose-only

Mice; Inhalation; Crocidolite; Validation, **109**, 147

Novel foods

A-gliadin; Spermine; Spermidine; Oligomers of *N*-acetyl-glucosamine; Mannan; Cereals; Isolated cells; Fetal intestines; Toxicity screening; In vitro toxicology; Prolamin peptides; Gliadin peptides; Gluten sensitive enteropathies; Coeliac disease; Genetically-modified plant foods, **132**, 99

NPSH, non-protein sulphydryl

PROD, 7-pentoxyresorufin *O*-depentylase; TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase, **126**, 213

NT-ANP, N-terminal peptide of pro ANP

ANP, atrial natriuretic peptide; Cardiovascular toxicity; Plasma ANP; Norcocaine; Cocaine; IR-ANP, immunoreactive ANP; IR-NT-ANP, immunoreactive N-terminal ANP, **128**, 101

Nuclear biotransformation

Acetaldehyde; Alcohol; Ethanol; Free radicals, **129**, 137

Nuclear matrix

Poly(ADP-ribosyl)ation; Dichlorovinylcysteine; Intermediate filament; Gene expression, **106**, 65

Nuclear proteins

Lipids; Ethanol; Acetaldehyde; Phospholipids; Tumor promotion; Cell proliferation; Cell survival; Growth kinetics; Lactate dehydrogenase release; Micronuclei; Teniposide; V79 cells, **138**, 19

Nucleated erythrocytes

NK; Macrophages; B cells; *p*-Chloronitrobenzene; T cells, **137**, 35

Nucleophile

2-Ethenyl-2-methyloxirane; Ethenyloxirane; Regioselectivity, **113**, 290

Nutrient-deficient diet

Ovariectomy; Lactation; Pregnancy; Bone loss; Cadmium; Itai-Itai disease, **119**, 103

Nutritional status

Liver cirrhosis; Thioacetamide; Pair-fed; Amino acids; Net uptake, **132**, 155

O

***O*-methylpodocarpic acid**

Podocarpic acid; Dehydroabietic acid; Resin acids; Oleoresin; Tea Tree oil; Cytotoxicity; Antibacterial effects; *S. aureus*; Epithelial cells; Fibroblasts; Neutral red assay, **107**, 99

Obidoxime

HI-6; Soman; Acetycholinesterase; Corticosterone; Tyrosine aminotransferase; Rat, **101**, 167

Pralidoxime; Soman; Methoxime; HI-6; BI-6; RaL, **132**, 111

Occlusive patch sensitization (24CP)

Guinea pig; Lymph node cell proliferation assay; Contact hypersensitivity; Screening, **114**, 47 24-h

Occupation

1,3-Butadiene; *hprt* mutation, **113**, 100

Occupational

Environmental; Exposure; Risk assessment; 1,3-Butadiene, **113**, 212

ESR; 1,3-Butadiene; Risk assessment, **113**, 226

Occupational asthma

Chemokine; Histamine releasingfactors; Diisocyanate; MCP-1; RANTES, **111**, 191

Diisocyanate; Respiratory disease, **111**, 181

Guinea-pig; Perfused trachea; Smooth muscle; Epithelium; Methacholine; Hyperreactivity; Airway; Toluene diisocyanate; Irritant; Capsaicin, **124**, 83

Occupational diseases

Neoplasms; Mortality; Longitudinal studies; Environmental; Carcinogens; Rubber manufacturing; Butadiene; Lymphohematopoietic cancer, **113**, 169

Occupational exposure

Immune system; PAH, **135**, 43

Leukemia; 1,3-Butadiene; Styrene; Synthetic rubber; Epidemiologic methods; Follow-up studies, **113**, 190

Occupational hazards

Carcinogen-DNA adduct analysis; Non-invasive biomarkers; Exposure/effectassessment; Monitoring technique, **111**, 207

Occupational health

Human; Butadiene; *hprt* mutation; Biological monitoring, **113**, 84

Occurrence

Isoprene; Production; Use; Toxicity, **113**, 242

Ochratoxin A

Kidney; Protein binding; MDCK cells; OK cells, **114**, 177

Kidney; Protein binding; Renal cell lines; Aspartame, **135**, 1

Kidney; Proximal tubule; Secretion; Organic anion transport, **120**, 11

MDCK cells; Collecting duct; Kidney; Dipeptide transport; Aspartame; Organic anion transport; BCECF; Phorbol ester; EIPA, **131**, 193

PBB; PCB; PCDF; PCDD; Biomarker; Exposure; Organic substance; PAH; Cooked food mutagen, **101**, 11

Ochratoxin-A epimer

Ochratoxins; Culture; Brain; Retina; Chick; Fibroblast, **118**, 205

Ochratoxins

Ochratoxin-A epimer; Culture; Brain; Retina; Chick; Fibroblast, **118**, 205

OECD guideline 407

Rat; Conventional 4-week study; Immunotoxicity (immunomodulation)evaluation; Cyclosporin A, **112**, 245

OK cells

LLC-PK1 cells; Cadmium; Organic cation transporter; Inorganic anion exchanger; Cisplatin, **131**, 183

MDCK cells; Protein binding; Kidney; Ochratoxin A, **114**, 177

Okadaic acid

Doxorubicin; LoVoDx cells; LoVo; Cantharidic acid; Apoptosis resistance, **134**, 109

Oleander

Cardiac glycosides; Oleandrin; Thevetin A, **109**, 1

Oleandrin

Cardiac glycosides; Oleander; Thevetin A, **109**, 1

Oleoresin

Resin acids; Dehydroabietic acid; Podocarpic acid; *O*-methylpodocarpic acid; Tea Tree oil; Cytotoxicity; Antibacterial effects; *S. aureus*; Epithelial cells; Fibroblasts; Neutral red assay, **107**, 99

Olfaction

Rat; Chloroform; Nasal pathology; Hyposmia, **122**, 39

Olfactory

Dichlobenil; Catfish; Herbicide, **117**, 111

Methyliodide; Glutathione *S*-transferase; Cytochrome P450; Covalent binding, **129**, 169

Sensitization; Limbicnervous system; Environmental chemical intolerance; Validity, **111**, 101

Olfactory epithelial degeneration

Anemia; Hepatocellular necrosis; Inhalation toxicology; Butadiene; Chloroprene, **108**, 79

Oligomers of *N*-acetyl-glucosamine

Mannan; Cereals; Isolated cells; Fetal intestines; Toxicity screening; In vitro toxicology; Prolamin peptides; Gliadin peptides; Gluten sensitive enteropathies; Coeliac disease; Spermidine; Spermine; A-gliadin; Novel foods; Genetically-modified plant foods, **132**, 99

Oligonucleotide

Antisense; Phosphorothioate; ICAM-1; Toxicology; Monkey, **120**, 145

Omeprazole

QSAR; Molecular modelling, **125**, 31

Oncogene activation

Enzyme induction; Early biochemical marker; Oxidative damage; Low-density lipoprotein, **101**, 55

Oncogenes

Carcinogenesis; DNA adducts; Polycyclic aromatic hydrocarbons, **105**, 403

Oncogenicity

Isoprene; Mice; Inhalation, **113**, 253

Tributyl phosphate; Urinary bladder hyperplasia; Urinary bladder tumors; Non-genotoxic, **128**, 125

Tri-*n*-butyl phosphate; Tributyl phosphate; TBP; Liver, **128**, 135

one-dimensional nuclear Overhauser effect spectroscopy (1D NOESY),

PRESAT, presaturation sequence; FID, free induction decay; TSP-d_4, 3(trimethylsilyl)-2,2′,3,3′ tetradeuteropropionic acid; ^{1}H NMR, proton nuclear magnetic resonance; ^{1}H NMR Screening; Ethylene glycol; Methanol; Overdose monitoring; Toxicology; EG, ethylene glycol, **128**, 73

Online databases

Toxicology clusters; Toxicology databases; Toxicology information; Metadatabank; Scoring system; Hasse-diagram, **100**, 225

Ontogeny

AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell, **128**, 151

Kidney; Amino acid transport; Nephrotoxicity; Thallium sulfate; Rats, **106**, 229

Oocyte maturation

Ethylene oxide; In vitro fertilization; Embryo culture; Bovine, **108**, 33

OP, organophosphate

MRV, minute respiratory volume; MAP, mean arterial pressure; ECG, electrocardiogram; BNZ, benactyzine; AChE, acetylcholinesterase; ACh, acetylcho-

line; Rat; Circulation; Respiration; Benactyzine; HI-6; Cholinergic–anticholinergic pretreatment; Soman; RR, respiratory rate; THP, trihexyphenidyle, **128**, 1

Opioid withdrawal syndrome

Rats; Otilonium bromide; Antiwithdrawal activity; Calcium antagonist, **122**, 23

Opioids

Toxicity; Anaesthetic-like; Tetrahymena pyriformis; Hydrophobicity; Partition coefficient, **117**, 35

Organ weight

Multivariate analysis; Analysis of covariance; Statistical power; Toxicity studies, **136**, 67

Organic acid anhydrides

Guinea pigs; IgG1; Cross-reactivity; Structure-activity, **118**, 223

Immunogenicity; Immunoglobulin E; Immunoglobulin G; Structure-activity relationships; Guinea-pigs, **103**, 127

Organic anion transport

Aspartame; Dipeptide transport; Kidney; Collecting duct; MDCK cells; Ochratoxin A; BCECF; Phorbol ester; EIPA, **131**, 193

Secretion; Proximal tubule; Kidney; Ochratoxin A, **120**, 11

p-Aminohippurate; Inorganic mercury; Renal uptake, **103**, 23

Organic cation transporter

OK cells; LLC-PK1 cells; Cadmium; Inorganic anion exchanger; Cisplatin, **131**, 183

Organic ion transporter

Phosphatase; Hepatotoxicity; Microcystin, **106**, 123

Organic substance

Exposure; Biomarker; PCDD; PCDF; PCB; PBB; Ochratoxin A; PAH; Cooked food mutagen, **101**, 11

Organophosphate

Coagulation; In vitro; Human, **119**, 167

Fever; Endotoxin; Hyperthermia; Hypothermia; Tolerance, **121**, 215

Fever; Sex; Hyperthermia; Hypothermia; Sodium salicylate; Cyclooxygenase, **118**, 149

Insecticide; Acetylcholinesterase; Acute toxicity; Species differences, **105**, 291

Temperature regulation; Cytokines; Fever; Pesticide, **134**, 9

Organophosphate pesticides

Cholinesterase; Acetylcholinesterase; Carbamate pesticides; Cholinesterase inhibitors; Cholinesterase inhibition; brain; Cholinesterase inhibition; blood; Cholinesterase inhibition; correlation; Cholinesterase inhibitors; risk assessment, **102**, 215

Organophosphate DFP

Animal model of MCS; FSL rats; Human depressives; Cholinergic supersensitivity, **111**, 119

Organophosphorus inhibitors

Carbamate; Rat brain, **125**, 13

Organophosphorus insecticide

Parathion; Flavonoids; Cytochromes P450, **131**, 155

Organophosphorus pesticides

Cimetidine; Parathion; Cytochrome P450, **128**, 207

Organotins

Thymus; SCID-hu; Immunotoxicology; Caramel colour III; Risk assessment, **100**, 203

Orthoclone OKT3

Muromonab CD3; Monoclonal antibody; Side-effects; Immunosuppressive agents, **105**, 23

Ortho-phenanthroline

Reactive oxygen species; Respiratory chain; Glycolysis; ATPase, **110**, 85

Osteotoxicity

Nephrotoxicity; Bone density; Caloric restriction; Chronic exposure; Metallothionein; Cadmium, **133**, 93

Otilonium bromide

Rats; Opioid withdrawal syndrome; Antiwithdrawal activity; Calcium antagonist, **122**, 23

Ovarian toxicity

Butadiene epoxides; Species variation, **113**, 128

Ovariectomy

Lactation; Pregnancy; Bone loss; Cadmium; Nutrient-deficient diet; Itai-Itai disease, **119**, 103

Lactation; Pregnancy; Kidney; Cadmium; Itai-Itai disease, **119**, 123

Lactation; Pregnancy; Liver; Cadmium; Itai-Itai disease; Zinc; Copper, **119**, 141

Ovary

Porcine; Cytochrome P450; 12-dimethylbenz(a)anthracene; Mitochondria, **122**, 11

Overdose monitoring

Toxicology; Methanol; Ethylene glycol; ^{1}H NMR Screening; ^{1}H NMR, proton nuclear magnetic resonance; TSP-d_4, 3(trimethylsilyl)-2,2′,3,3′ tetradeuteropropionic acid; FID, free induction decay; PRESAT, presaturation sequence; 1D NOESY, one-dimensional nuclear Overhauser effect spectroscopy; EG, ethylene glycol, **128**, 73

Oxazolone

Contact hypersensitivity; IFNγ-R knockout mouse; IFNγ; TNCB, **102**, 301

Disodium hexachloroplatinate; Beryllium sulphate; Cobalt chloride; Nickel sulphate; Potassium dichromate; Local lymph node assay (LLNA); BALB/c mice; Toluene diisocyanate, **120**, 65

Oxidant resistance

Cytokines; Glutathione peroxidase; Metallothionein; Cadmium; Lung; Macrophages, **107**, 163

Oxidant stress

tert-Butyl hydroperoxide; Isolated cardiomyocytes; Adenine nucleotide degradation; Cytotoxicity; Electron microscopy, **106**, 39

Oxidation

Genotoxicity; Kidney; 8-Oxo-deoxyguanosine; Potassium bromate; Glutathione; Reactive oxygen; Lipid peroxides, **126**, 93

***β*-oxidation**

Rhodamine 123; Mitochondria; Panadiplon; Cyclopropane carboxylic acid; Liver; Rabbit; Human, **131**, 33

Oxidative damage

DNA-protein cross-links; Metals; Formaldehyde; Acetaldehyde; Chromium; Copper; Iron; Manganese; Vanadium, **110**, 1

Fumonisin B_1; Lipid peroxidation; Malondialdehyde; Rat hepatocytes; Rat liver, **131**, 121

Oncogene activation; Enzyme induction; Early biochemical marker; Low-density lipoprotein, **101**, 55

Oxidative DNA damage

Pesticides; 8-OH-2-deoxyguanosine, **117**, 55

Oxidative stress

4-(2-Thienyl)butyric acid; Thiophenes; Distal tubules; Proximal tubules; Kidney cells; Cytotoxicity, **103**, 167

CHO; Lead toxicity; NAC; Glutathione; LPO, **108**, 57

Fetotoxicity; TCDD; Ellagic acid; Vitamin E succinate; Lipid peroxidation; DNA damage; C57BL/6J mice; Placenta; Fetus, **124**, 27

Free radicals; Cadmium; Testes; Zinc deficiency, **137**, 13

Glutathione; Lipid peroxidation; Antioxidants; U743-89G; DPPD; Benomyl; Methyl 1-(butylcarbamoyl)-2-benzimidazole-carbamate, **116**, 177

Growth factors; Cytokines; LPS; Acetaldehyde; Ethanol; HepG2 cells, **134**, 197

Heme oxygenase; Cadmium chloride; Bilirubin; α-Tocopherol; Rat liver, **104**, 141

Hepatic toxicity; Cyclosporine; Antioxidants, **123**, 197

Lead; Glutathione; Glutathione *S*-transferase; Antioxidant response element, **128**, 191

Lead; NAC; Succimer; Red blood cells, **128**, 181

Lindane; Liver morphological alterations; Regression, **117**, 199

Lung injury; High energy impulse noise; Blast overpressure; Free radicals, **121**, 1

Metallothionein; Antioxidant systems; Cadmium; Zinc; Lipopolysaccharide; α-Hederin, **104**, 25

Reducing equivalents; Glutathione; Glutathione disulfide; Heart, **124**, 11

Oxidative stress response

Apoptosis; Lung epithelial cell; Cadmium; Gene expression; Glutathione; Glutathione S-transferase; γ-Glutamylcysteine synthetase; Redox sensitive transcription factors, **133**, 43

8-Oxide

Styrene-7; Human white blood cells; DNA fragmentation, **120**, 111

8-Oxo-deoxyguanosine

Potassium bromate; Kidney; Genotoxicity; Oxidation; Glutathione; Reactive oxygen; Lipid peroxides, **126**, 93

Oxoferryl hemoglobin

Methemoglobin; Prooxidants; Antioxidant depletion; Lipid peroxidation; Hemoglobin-induced injury; High energy impulse noise; Blast overpressure, **121**, 81

Oxygen free radicals

Adriamycin; Creatine kinase; Cardiomyocytes; Cardiotoxicity, **134**, 51

Oxygen metabolism

Carbon monoxide; Cerebral blood flow; Hypoxia, **114**, 223

Oxygen-related permeability

Plasma membrane; Rathepatocytes; Cadium-induced cytotoxicity, **114**, 125

Ozone

Acid aerosols; Air pollution; Morphometry; Collagen; Lung, **116**, 133

Guinea pig; Hyperreactivity; Epithelium; Inflammation, **120**, 159

Lung; Inflammation; Permeability; Rabbit serum, **127**, 17

Macrophage; Interferon-γ, **114**, 243

Nitric acid; Lung toxicology; Stress proteins; Heat shock protein 70; Inhalation, **107**, 111

Particles; Dosimetry; Particle deposition, **105**, 327

P

***p*-Aminohippurate**

Inorganic mercury; Renal uptake; Organic anion transport system, **103**, 23

P19 cells

CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide excision repair; RA, all-*trans*-retinoic acid; Developmental toxicity; Embryonic carcinoma cells, **127**, 49

P20

Chelator; Blood-brain barrier; 1,2-d ethyl-3-hydroxypyridin-4-one; 1,2-dimethyl-3-hydroxypyridin-4- one; 1-[Ethan-1′ol]-2-methyl-3-hydro xypyridin-4-one; 3-Hydroxypyridin-4-ones; CP40; CP94; EL1NEt; L1; Deferipro ne, **108**, 191

P450

Mutagens; Co-administration; Flavonoids; BHT; BHA, **122**, 61

P450 3A4

In vitro inhibition; Cytochrome P450; Catalytic activities; Methadone; Fluvoxamine, **117**, 13

P450 induction in rats

β-Naphthoflavone; DNA modifications; I-compounds; ^{32}P-postlabeling, **104**, 165

PAGE, polyacrylamide gel electrophoresis

MEKK, MEK kinase; MEK, MAPK kinase or ERK kinase; MAPK, MAP kinase; MAP, mitogen-activated protein; ERK 1 and 2, MAP kinases of 44 and 42 kDa, also referred to as extracellular signal-regulated protein kinases; Human immune cells; MAP kinase module; Insecticide; Heptachlor; PBMC, peripheral blood mononuclear cells, **128**, 17

PAH

Immune system; Occupational exposure, **135**, 43

Ochratoxin A; PBB; PCB; PCDF; PCDD; Biomarker; Exposure; Organic substance; Cooked food mutagen, **101**, 11

PAH, polycyclic aromatic hydrocarbon

GST, glutathione *S*-transferase; Glutathione *S*-transferase (class Mu); Lymphocytes; DNA adduct formation; Cigarette smoking; AF, 2-aminofluorene; AP, 2-aminophenantherene; ABP, 4-aminobiphenyl; BP, benzo(*a*)pyrene, **126**, 155

PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540, **128**, 151

PAHs

Immunotoxicity; B6C3F1 mice, **109**, 31

Pair-fed

Nutritional status; Liver cirrhosis; Thioacetamide; Amino acids; Net uptake, **132**, 155

Palate

Ah receptor; Glucocorticoid; TCDD; Dioxin, **105**, 365

Palmitic acid

Glucose; Thioacetamide; Tissuerepair; Cell division; L-carnitine, **111**, 163

Panadiplon

Hypoxia; Hepatocyte; Mitochondria; Glycogen; Anxiolytic, **108**, 9

Mitochondria; Rhodamine 123; β-oxidation; Cyclopropane carboxylic acid; Liver; Rabbit; Human, **131**, 33

Pancreas

Zinc; Alloxan; Metallothionein; Exocrine; Islets, **132**, 33

***para*-Aminophenol**

Methyl vinyl ketone; *tert*-Butyl-hydroperoxide; Primary cell culture; Distal tubules; Proximal tubules; Kidney cells, **103**, 85

Paracetamol

Analgesic; ATP levels; Cell injury; Rat liver slices; Glycolysis; Cell protection, **108**, 175

Analgesic; ATP levels; Fructose; Cell injury; Rat liver slices; Cell protection, **107**, 177

Analgesic; NAPQI; Liver injury; Adenosine triphosphate levels, **104**, 91

Cimetidine; N-acetylcysteine; Liver damage; Toxicity; Glutathione, **121**, 223

Cyclosporin A; Fructose; Trifluoperazine; Cell injury; Protection; Mitochondrial membrane potential; $TPMP^+$, **107**, 201

DNA synthesis; Testis; Intestine; Spleen; Thymus; Liver, **116**, 49

Liver; Cell injury; Protection; Fructose; Glycerol, **103**, 113

Paracetamol (acetaminophen)

Metallothionein; Hepatocytes; Toxicity; Glycogen (glucose); Lactate dehydrogenase; Alanine aminotransferase, **125**, 131

Paramecium

Calcium channels; Lead toxicity; Pb^{2+}; DMSA; Ca-Na_2-EDT acid; Ascorbic acid, **108**, 165

Parameter sensitivity

Toxicokinetic modeling; 1,3-Butadiene, **113**, 31

Paraquat

2-Nitronaphthalene; 1-Nitronaphthalene; Vitamin A; Lung injury; Liver injury, **105**, 237

Renal proximal tubules; Rabbit; Cytotoxicity; Mitochondrial damage, **122**, 123

Parathion

Arsenic; Acetylcholinesterase; Monooxygenases; CYP2B1; CYP2B2, **116**, 59

Cimetidine; Organophosphorus Pesticides; Cytochrome P450, **128**, 207

Organophosphorus insecticide; Flavonoids; Cytochromes P450, **131**, 155

Particle deposition

Dosimetry; Particles; Ozone, **105**, 327

Particles

Air pollutants; Inflammation; Reactive oxygen species; Polymorphonuclear leukocytes, **120**, 185

Dosimetry; Particle deposition; Ozone, **105**, 327

Particulate pollution

Air pollution; Respiratory disease, **111**, 149

Partition coefficient

Hydrophobicity; Tetrahymena pyriformis; Anaesthetic-like; Toxicity; Opioids, **117**, 35

Passive cutaneous anaphylaxis

Mast cells; Histamine release; PCA; Pesticides; TNF-α, **126**, 41

Passive smoking

Tobacco smoke; Lung disease; Protein synthesis; Cell toxicity, **100**, 163

Pathology

Monocrotaline; Inflammation; β-Carotene; Right ventricular hypertrophy, **137**, 69

Primary blast injury; Blast overpressure; Histology; Lung; Heart; Gastrointestinal tract; Brain, **121**, 17

Pb

Porphyrins; Coproporphyrinogen oxidase; HepG2 cells, **126**, 163

PB=phenobarbital

HC=hydrocortisone acetate; TCDD=2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT=L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT=L-serine dehydratase; TAT=L-tyrosine aminotransferase; 3-Methylcholanthrene; Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene, **126**, 127

Pb^{2+}

Lead; Calpain; Calcium, **131**, 169

Paramecium; Calcium channels; Lead toxicity; DMSA; Ca-Na_2-EDT acid; Ascorbic acid, **108**, 165

PBB

PCB; PCDF; PCDD; Biomarker; Exposure; Organic substance; Ochratoxin A; PAH; Cooked food mutagen, **101**, 11

PBMC, peripheral blood mononuclear cells

PAGE, polyacrylamide gel electrophoresis; MEKK, MEK kinase; MEK, MAPK kinase or ERK kinase; MAPK, MAP kinase; MAP, mitogen-activated protein; ERK 1 and 2, MAP kinases of 44 and 42 kDa, also referred to as extracellular signal-regulated protein kinases; Human immune cells; MAP kinase module; Insecticide; Heptachlor, **128**, 17

PBPK

Uncertainty; Default assumptions; BBDR; risk assessment; science policy, **102**, 3

PBPK model

Mouse; Man; Glutathione; 1,2-Epoxybutene-3; 1,3-Butadiene; Rat; Species extrapolation, **113**, 40

PBPK modeling

Cathepsins; 2,4,4-Trimethyl-2-pentanol; α_{2u}-Globulin, **136**, 89

Target organ interactions; Chemical mixtures; Chemical toxicity, **105**, 343

PB-PK/PD modeling

Chemical mixtures; Risk assessment, **105**, 275

Hematotoxicants; Toxic interactions; Physiological pharmacokinetics, **105**, 355

PBS, phosphate-buffered saline

HS, heparan sulphate; DS, dermatan sulphate; CS, chondroitin sulphate; GAG, sulphated glycosaminoglycans; Lysosomal storage, reversibility of; Glycosaminoglycans; Dicationic amphiphilic drugs; Tilorone, **128**, 91

PC-12 cells

Lungs; Brain; Liver; Sprague–Dawley rats; HSP89β; HSP89→; Heat shock (stress) proteins; Fenthion; Chlorpyrifos; Chlordane; Endrin; Alachlor, **112**, 57

Sprague Dawley rats; Fenthion; Chlorpyrifos; Alachlor; Chlordane; Endrin; Reactive oxygen species; Lipid peroxidation; Chemiluminescence; DNA damage; Lactate dehydrogenase, **104**, 129

PCA

Passive cutaneous anaphylaxis; Mast cells; Histamine release; Pesticides; TNF-α, **126**, 41

PCB

Mossy fibers; Learning; Hypothyroid; Hippocampus, **138**, 11

PCDF; PCDD; Biomarker; Exposure; Organic substance; PBB; Ochratoxin A; PAH; Cooked food mutagen, **101**, 11

PCB 126

Morphometry; Liver; Electron microscopy; 3,3′,4,4′,5-Pentachlorobiphenyl; Rat, **136**, 107

PCB 153

Rat liver; Electron microscopy; Morphometry, **120**, 171

PCB 77

3,3′,4,4′-Tetrachlorobiphenyl; Rat; Liver; Morphometry, **127**, 179

PCBs

Morbillivirus; Immunotoxicology; Seals; PCDDs; PCDFs, **112**, 157

Neurotoxicity; Intracellular free calcium; Cerebellar granule cells, **136**, 27

PCDD

Biomarker; Exposure; Organic substance; PCDF; PCB; PBB; Ochratoxin A; PAH; Cooked food mutagen, **101**, 11

PCDDs

PCBs; Morbillivirus; Immunotoxicology; Seals; PCDFs, **112**, 157

PCDFs

PCDD; Biomarker; Exposure; Organic substance; PCB; PBB; Ochratoxin A; PAH; Cooked food mutagen, **101**, 11

PCDDs; PCBs; Morbillivirus; Immunotoxicology; Seals, **112**, 157

***p*-Chloronitrobenzene**

B cells; Macrophages; NK; Nucleated erythrocytes; T cells, **137**, 35

NK activity; CTL activity; Lymphocyte proliferation; Immunotoxicity; Mice, **127**, 223

Pediatrics

Registries; Toxicology; Poisoning, **107**, 153

D-Penicillamine

Tissue copper distribution; Copper excretion; Zinc acetate, **126**, 195

Penicillin

Nickel; TNP; MHC; Peptide; Recognition; Receptor, **107**, 141

5-Pentachlorobiphenyl (PCB 126)

Aldolase; rat liver; Gluconeogenesis; inhibition; Polychlorinated biphenyl (PCB); Amino acid sequence (peptide mapping), **116**, 193

3,3′,4,4′,5-Pentachlorobiphenyl

Electron microscopy; Liver; Morphometry; PCB 126; Rat, **136**, 107

3,3′,4,4′,5-Pentachlorobiphenyl (PCB 126)

Aldolase; rat liver; Gluconeogenesis; inhibition; Polychlorinated biphenyl (PCB); Amino acid sequence (peptide mapping), **116**, 193

Pentachlorophenol

Immunotoxicology; Macrophage phagocytosis; Antibody production; Lymphocyte blastogenesis; Lymphocyte cell surface antigene; Immune compensation, **125**, 141

Pentobarbital

Empenthrin; Narcosis; Metabolism, **108**, 185

Pyrethroids; Narcosis, **106**, 131

PEPCK=phosphoenolpyruvate carboxykinase

SDHT=L-serine dehydratase; TAT=L-tyrosine aminotransferase; 3-Methylcholanthrene; Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital; HC=hydrocortisone acetate; TCDD=2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT=L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase), **126**, 127

Peptides

A-Gliadin; Durum wheat; Cells; Coeliac disease; Prolamines; MAC, minimal agglutinating concentration; MALDI-MS, matrix-assisted laser-desorption ionization mass spectrometry; MIC, minimal inhibitory concentration; PT digest, peptic–tryptic digest, **127**, 97

Durum wheat; Coeliac disease; Cells, **120**, 207

MHC; Penicillin; Nickel; TNP; Recognition; Receptor, **107**, 141

Perchloroethylene

8-Hydroxydeoxyguanosine; 8-Epi-prostaglandin $F_2\alpha$; 2-Nitropropane; TBARS; Tetrachloroethylene, **138**, 43

Perfluorodecanoic acid

Peroxisome proliferator; Hepatotoxicity, **134**, 179

Perfused trachea

Smooth muscle; Epithelium; Methacholine; Hyperreactivity; Airway; Toluene diisocyanate; Guinea-pig; Occupational asthma; Irritant; Capsaicin, **124**, 83

Perinatal exposure

Immune system; 2,3,7,8-Tetrachlorodibenzo-p-dioxin, **122**, 229

Methylmercury; Comparative human studies; Risk assessment, **111**, 157

Methyl mercury; Immunotoxicity, **114**, 163

Peripheral blood mononuclear cells

Chronic beryllium disease; Cell migration; Blood monocytes; Blood lymphocytes; Beryllium, **138**, 155

Peripheral neurotoxicity

Motor nerve conduction velocity; Inhalation exposure; Histopathology; Electrophysiology; Distal latency; 2-Bromopropane, **135**, 87

Peritoneal macrophages

Nitric oxide; *Scutellaria baicalensis*; Staurosporin; Tumor necrosis factor-α, **135**, 109

Perlecan

Heparan sulfate; Fibroblast growth factor; Endothelial cell; Proteoglycan; Lead, **133**, 159

Permeability

Inflammation; Lung; Ozone; Rabbit serum, **127**, 17

Intestine; Saponin; Milk; Allergy; Sensitisation, **117**, 219

Permethrin

Immunotoxicity; Genotoxicity; Cypermethrin; Rat, **137**, 47

Peroxides

Antioxidants; Glutathione; detoxication of; Detoxication; role of glutathione in; Apoptosis; redox regulation of; Blood plasma; GSH content in; Demographic factors affecting GSH; Diet; GSH content in, **105**, 267

Peroxisome

Ciprofibrate; Eicosanoids; Transforming growth factor-β; AP-1, **131**, 99

Prostaglandin; Eicosanoid; Cyclooxygenase; Phospholipase A2; Ciprofibrate, **126**, 65

Prostaglandins; Eicosanoids; Phenobarbital; Ciprofibrate, **123**, 101

Peroxisome proliferation

8-Hydroxydeoxyguanosine; Chlorinated and brominated haloacetates, **110**, 103

Peroxisome proliferators

Di(2-ethylhexyl)phthalate (DEHP); Benzo(a)pyrene-7; 8-dihydrodiol-9; 10-epoxide (BPDE); Glutathione S-transferase; Cytochrome P-450 (CYP); Silvex, **122**, 81

Enzyme induction; Cytochrome P4504A; Clotrimazole; Bifonazole, **106**, 19

Perfluorodecanoic acid; Hepatotoxicity, **134**, 179

Pesticides

Mixture; SH-SY5Y cells, **108**, 201

Oxidative DNA damage; 8-OH-2-deoxyguanosine, **117**, 55

Organophosphate; Temperature regulation; Cytokines; Fever, **134**, 9

PCA; Passive cutaneous anaphylaxis; Mast cells; Histamine release; TNF-α, **126**, 41

Tissue slices; Interspecies extrapolation, **105**, 283

Peyer's patches

Spleen; IL-6; IL-5; IL-4; IL-2; Interleukin; Cytokine; IgA; Protein synthesis; Immunotoxicity; Mycotoxin; Deoxynivalenol; Vomitoxin; Trichothecene; IgA nephropathy, **122**, 145

PFC response

Gamma rays; DNA fragmentation; Bone marrow; Apoptosis, **135**, 69

PGST

Mathematical models; Placental glutathione S-transferase, **102**, 161

Phagocytosis

Immunotoxicity; Zinc; Lead; Cadmium; Mercury; Heavy metals; Coelomocyte; Lumbricusterrestris; Earthworms; Environmental pollution; Risk assessment; Environmental health; Invertebrates, **109**, 157

Pharmaceuticals

New chemical entities; Immunotoxicology; Safety assessment; Inter-laboratory replicaiton; Validation, **119**, 95

Pharmacokinetic model

Risk assessment; Animal models; Behavioral tests; Neurobehavioral and neuromolecular batteries, **115**, 107

Pharmacokinetic modeling

Methylene chloride; Risk assessment, **102**, 83

Risk assessment; Uncertainty; Variability; Chloroform, **111**, 289

Risk assessment; Variability; Sensitive subpopulations, **111**, 315

Pharmacokinetics

1,3-Butadiene; Metabolism, **113**, 14

Digoxin-specific Fab; Redistribution, **137**, 117

Dioxin; Models, **102**, 125

Dosimetry; Cross-species extrapolation; Mechanistic models; Allometric scaling, **102**, 95

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Phase II metabolism

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Phase separation

Free radicals; Iron; Lipid oxidation; Lead, **132**, 19

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Phenelzine

β-aminopropionitrile; Allylamine; Semicarbazide; l-Cysteine; Aortic smooth muscle; Vascular media, **125**, 107

Phenobarbital

Ciprofibrate; Eicosanoids; Prostaglandins; Peroxisome, **123**, 101

Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital; HC=hydrocortisone acetate; TCDD=2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT=L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT=L-serine dehydratase; TAT=L-tyrosine aminotransferase; 3-Methylcholanthrene, **126**, 127

Metabolism; Hamster; Cytochrome P-450; Toxicity; Triphenyltin, **137**, 151

Phenol

Benzene; Hydroquinone; Competitive inhibition, **105**, 225

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Phorbol ester

BCECF; Organic anion transport; Aspartame; Dipeptide transport; Kidney; Collecting duct; MDCK cells; Ochratoxin A; EIPA, **131**, 193

Phosphatase

Hepatotoxicity; Microcystin; Organic ion transporter, **106**, 123

Phosphorylation; Neurofilament; Aluminum neurotoxicity; Motor neuron disease, **108**, 17

Phosphoenolpyruvate carboxykinase

Interleukin-1; Delayed-type hypersensitivity reaction; Dioxin; TCDD; 2,3,7,8-Tetrachlorodibenzo-p-dioxin; Tumor necrosis factor, **116**, 9

TCDD; 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin; Primary rat hepatocyte, **103**, 45

Phospholipase A2

Cyclooxygenase; Eicosanoid; Prostaglandin; Peroxisome; Ciprofibrate, **126**, 65

Phospholipidosis

Amiodarone; Alveolar macrophage, **106**, 139

Phospholipids

Melittin; Mammary gland; Lysophospholipids; Gangliosides; Phosphorylation; Protein kinase C, **104**, 73

Nuclear proteins; Lipids; Ethanol; Acetaldehyde; Tumor promotion; Cell proliferation; Cell survival; Growth kinetics; Lactate dehydrogenase release; Micronuclei; Teniposide; V79 cells, **138**, 19

Phosphorothioate

Oligonucleotide; Antisense; ICAM-1; Toxicology; Monkey, **120**, 145

Phosphorothioate deoxyoligonucleotide

Antisense; Toxicology; Rat, **116**, 77

Phosphorylation

Neurofilament; Aluminum neurotoxicity; Phosphatase; Motor neuron disease, **108**, 17

Phospholipids; Melittin; Mammary gland; Lysophospholipids; Gangliosides; Protein kinase C, **104**, 73

Phosphotriesterase

Eptastigmine; Physostigmine; Pyridostigmine; Sarin; Mice, **134**, 169

Photocytotoxicity

Polycyclic aromatic hydrocarbons; Rainbow trout gill cell line, **127**, 143

Photoinactivated binase

Bacillus amyloliquefaciens ribonuclease (barnase); Bacillus intermedius RNase (binase); His102Gln barnase; Isolated perfused rat kidney; Nephrotoxicity, **120**, 55

Phototoxicity

Irritancy; Cytokines; Contact photoallergy; Contact allergy; Th1; Th2, **125**, 149

Physiological pharmacokinetics

PBPK/PD modeling; Hematotoxicants; Toxic interactions, **105**, 355

Physiological toxicokinetic model

Toxicokinetics; Humans; Mice; Rats; Haemoglobin adducts; Glutathione; 1,2:3,4-Diepoxybutane; 1,2-Epoxy-3-butene; 1,3-Butadiene, **113**, 300

Toxicokinetics; 2-Methyl-1,3-butadiene; Isoprene; Rat; Mouse; Man; Endogenous production, **113**, 278

Physiologically based modeling

Bromodichloromethane; Rates of metabolism; Water disinfection by-products, **124**, 141

Physiologically based pharmacokinetic models

Distributions; Decision analysis; Comprehensive realism; Probabilistic risk assessment; Cancer risk assessment; Butadiene, **113**, 231

Epoxides; Butadiene; Dosimetry, **113**, 318

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Physiologically based pharmacokinetics

Dirichlet-multinomial model; Developmental toxicity; Two-stage clonal expansion model; Multi-stage model; Carcinogenesis; Ames assay; Mutagenesis; Toxicological mechanisms; Biologically based dose response models; Quantitative risk assessment; Receptor-binding, **102**, 53

Physiologically based toxicokinetic models

Metabolism; Risk assessment; 1,3-Butadiene, **113**, 48

Physiologically-based pharmacokinetic model

Kinetics; Lindane, **122**, 1

Physostigmine

Cholinesterase inhibitor; BPMC; 2-sec-Butylphenyl methylcarbamate; PHC; Propoxur; Non-cholinergic; Cardiovascular, **117**, 163

Pyridostigmine; Eptastigmine; Phosphotriesterase; Sarin; Mice, **134**, 169

PI, propidium iodide

TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thy-

mus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]-anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon, **128**, 151

Picloram

2,4-D; Submitochondrial particles; Surfactant, **136**, 41

Pigmented epithelium

Retina; Mercury accumulation; Mercury vapour; Squirrel monkeys, **107**, 189

Piperazines

Hypoxia; PKC inhibitors; Protein kinase C; Cyanide antidotes; Mediators, **100**, 129

Piperonyl butoxide

Hepatocellular carcinoma; Hemangiosarcoma; Carcinogenesis; Mice, **124**, 95

SKF 525-A; In vitro bioactivation; Dichloroacetic acid; Chloroform, **124**, 53

Piroxantrone

Losoxantrone; Doxorubicin; Cardiotoxicity; Nephrotoxicity; Reactive oxygen species; Electronmicroscopy; Iron complexes, **128**, 35

PKC inhibitors

Protein kinase C; Hypoxia; Piperazines; Cyanide antidotes; Mediators, **100**, 129

Placenta

C57BL/6J mice; DNA damage; Lipid peroxidation; Vitamin E succinate; Ellagic acid; Oxidative stress; Fetotoxicity; TCDD; Fetus, **124**, 27

Placental glutathione S-transferase

PGST; Mathematical models, **102**, 161

Placental transfer

Cadmium; Metallothionein; Distribution; Immunohistochemistry; Transgenic mice, **127**, 167

Plasma

Kidney; Metallothionein; Cadmium; Critical concentration, **129**, 157

Milk; Methylmercury; Mercury-binding proteins; Inorganic mercury, **137**, 169

Plasma ANP

Norcocaine; Cocaine; Cardiovascular toxicity; ANP, atrial natriuretic peptide; NT-ANP, N-terminal peptide of pro ANP; IR-ANP, immunoreactive ANP; IR-NT-ANP, immunoreactive N-terminal ANP, **128**, 101

Plasma membrane

Lymphocytes; Metallothionein; Thiols, **108**, 129

Rathepatocytes; Cadium-induced cytotoxicity; Oxygen-related permeability, **114**, 125

Plasminogen activator inhibitor type-1

Tissue plasminogen activator; Fibroblasts; Vascular smooth muscle cells; Cadmium, **106**, 179

Plasminogen activator inhibitor-1

Tissue plasminogen activator; Fibroblasts; Fibrinolysis; Vascular smooth muscle cells; Lead, **117**, 153

Plastics workers

Vinyl chloride monomer; DNA damage; Single-cell gel electrophoresis; Comet assay; SCGE, single-cell gel electrophoresis; VCM, vinyl chloride monomer; SCE, sister chromatid exchange; TLV, threshold limit value; CAA, chloroacetaldehyde; CEO, chlorethylene oxide, **128**, 9

Platelets

Liver; Lipopolysaccharide; Neutrophils; Hepatocellular necrosis, **121**, 181

Platinum

Nephrotoxicity; Atrial natriuretic peptide; Cisplatin, **106**, 159

Pneumocytes II

Phase II metabolism; Rat lung slices; Glutathione; Toxicity in vitro; Acrolein, **133**, 129

***p*-Nitrophenol hydroxylase**

Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1; Temporal variation; Circadian rhythm; Acetaminophen, **128**, 53

Podocarpic acid

Dehydroabietic acid; Resin acids; Oleoresin; *O*-methylpodocarpic acid; Tea Tree oil; Cytotoxicity; Antibacterial effects; *S. aureus*; Epithelial cells; Fibroblasts; Neutral red assay, **107**, 99

Poisoning

Pediatrics; Registries; Toxicology, **107**, 153

Pollutants

Inflammation; Airway; Lung; Pulmonary; Eicosanoids; Leukotrienes, **114**, 187

Pollution

Molecular epidemiology; Industrial region; Environmental carcinogen; Biological marker; Central and Eastern Europe, **101**, 117

Poly(ADP-ribosyl)ation

Dichlorovinylcysteine; Nuclear matrix; Intermediate filament; Gene expression, **106**, 65

Polychlorinated biphenyl (PCB)

Hydroxylated metabolite; Fetus; Thyroxin; Transthyretin; Mouse, **106**, 105

Inhibition; Gluconeogenesis; rat liver; Aldolase; 5-Pentachlorobiphenyl (PCB 126); Amino acid sequence (peptide mapping), **116**, 193

Polychlorinated biphenyls

Polychlorinated dibenzofurans; 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD); Toxic equivalency factors (TEFs); Risk assessment; Polyhalogenated aromatic hydrocarbons, **105**, 391

Polychlorinated dibenzofurans

2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD); Toxic equivalency factors (TEFs); Risk assessment; Polychlorinated biphenyls; Polyhalogenated aromatic hydrocarbons, **105**, 391

Polycyclic aromatic hydrocarbons

Cytotoxicity; Rainbow trout gill cell line, **127**, 129

DNA adducts; Oncogenes; Carcinogenesis, **105**, 403

Endocrine-disruptors; Antiestrogenic; MCF-7 cells; Estrogen receptor, **133**, 115

1-Hydroxypyrene; Biliary excretion kinetics; Pyrene; Urinary excretion kinetics, **127**, 69

Photocytotoxicity; Rainbow trout gill cell line, **127**, 143

Polyhalogenated aromatic hydrocarbons

Polychlorinated biphenyls; Polychlorinated dibenzofurans; 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD); Toxic equivalency factors (TEFs); Risk assessment, **105**, 391

Polymorphisms

Methylation; Inorganic arsenic; Disposition; Cancer, **137**, 95

Polymorphonuclear leukocytes

Intracellular calcium; Reactive oxygen metabolites; *Cis*-fatty acid anilides; *Cis*-fatty acids; Toxic Oil Syndrome, **104**, 113

N-(5-vinyl-1,3-thiazolidin-2-ylidene)phenylamine; Intracellular calcium; Reactive oxygen metabolites; Toxic oil syndrome, **100**, 195

Reactive oxygen species; Inflammation; Air pollutants; Particles, **120**, 185

Polyurethane foam

Genetic toxicology; Toxicant suppressants; N-Gas Model; Combustion gases, **115**, 89

Popliteal lymph node

Suspended particulate matter; Diesel exhaust; IgE; Adjuvant, **129**, 227

Popliteal lymph node assay

Autoimmunity; Animal models, **119**, 45

Rat pituitary carcinoma; Immunocytochemistry, **119**, 83

Wistar rats; Interlaboratory validation study, **122**, 213

Porcine

Cytochrome P450; 12-dimethylbenz(a)anthracene; Ovary; Mitochondria, **122**, 11

Porphyrin production

Rat hepatocyte; Long-term culture; Lead exposure, **102**, 275

Porphyrins

Coproporphyrinogen oxidase; Pb; HepG2 cells, **126**, 163

Postlabelling

DNA immunoassay; Fluorescence; Urinary adduct; Biomonitoring, **101**, 41

Postnatal development

Brain development; δ-aminolevulinate dehydratase; Lead acetate; Mercury chloride, **100**, 27

Potassium

Sodium; Urinary excretion; β_2-Microglobulin; Environmental cadmium, **127**, 187

Potassium bromate

8-Oxo-deoxyguanosine; Kidney; Genotoxicity; Oxidation; Glutathione; Reactive oxygen; Lipid peroxides, **126**, 93

Potassium dichromate

Chromium chloride; Fertility; Mice, **116**, 39

Local lymph node assay (LLNA); BALB/c mice; Nickel sulphate; Cobalt chloride; Beryllium sulphate; Disodium hexachloroplatinate; Oxazolone; Toluene diisocyanate, **120**, 65

Potassium ion channel

Dendrotoxin; Apamin; Toxicity; Rat, **104**, 47

Potassium sorbate

Sodium dehydroacetate; Thiabendazole; Lipid peroxidation, **120**, 29

Potentiation of hepatotoxicity

Dichloroacetic acid; Chloroform; Covalent binding; Glutathione content; Cytochrome P450 content, **124**, 63

PPBE tests

Lung simulators; Challenge combustion atmospheres; Hopcalite filters; Brathable gas (oxygen hoods); Filter/oxygen mask, **115**, 41

Lung simulators; Challenge combustion atmospheres; Hopcalite filters; Breathable gas (oxygen) hoods; Filter/oxygen mask, **115**, 63

^{32}P-postlabeling

Diene diepoxides; 4-Vinyl-1-cyclohexene; 1,3-Butadiene; DNA adducts; Mouse skin, **113**, 341

I-compounds; DNA modifications; P450 induction in rats; β-Naphthoflavone, **104**, 165;

Pralidoxime

Soman; Obidoxime; Methoxime; HI-6; BI-6; RaL, **132**, 111

Precision-cut liver slices

HSP 70; HSP 90, **104**, 35

Preclinical model

GM-CSF, granulocyte-macrophage colony-stimulating factor; G-CSF, granulocyte colony-stimulating factor; IL-6, interleukin-6; Nonhuman primates; Acute-phase proteins, **101**, 157

Predictive testing

Hypersensitivity; Chemical allergens; Skin sensitization; Local lymph node assay, **108**, 141

Prednisolone

Methylprednisolone; Mathematical models, **102**, 189

Pregnancy

Acute phase response; Zinc; Metallothionein; Valproic acid; 2-Ethylhexanol; 2-Ethylhexanoic acid; Developmental toxicity, **126**, 9

Bone loss; Cadmium; Lactation; Ovariectomy; Nutrient-deficient diet; Itai-Itai disease, **119**, 103

Kidney; Cadmium; Lactation; Ovariectomy; Itai-Itai disease, **119**, 123

Liver; Cadmium; Lactation; Ovariectomy; Itai-Itai disease; Zinc; Copper, **119**, 141

Preimplantation embryo

Metal; Development; Arsenic; Silver; Aluminum; Vanadium; Lead; Zinc; Copper; Manganese; Iron; Cadmium; Mercury; Chromium, **116**, 123

PRESAT, presaturation sequence

FID, free induction decay; TSP-d_4, 3(trimethylsilyl)-2,2′,3,3′ tetradeuteropropionic acid; ^{1}H NMR, proton nuclear magnetic resonance; ^{1}H NMR Screening; Ethylene glycol; Methanol; Overdose monitoring; Toxicology; 1D NOESY, one-dimensional nuclear Overhauser effect spectroscopy; EG, ethylene glycol, **128**, 73

Preventive effect

Monoisoamyl *meso*-2,3-dimercaptosuccinate; Mice; Developmental toxicity; Methylmercury chloride, **106**, 93

Primary blast injury

Blast overpressure; Pathology; Histology; Lung; Heart; Gastrointestinal tract; Brain, **121**, 17

Primary cell culture

Distal tubules; Proximal tubules; Kidney cells; *tert*-Butyl-hydroperoxide; Methyl vinyl ketone; *para*-Aminophenol, **103**, 85

Primary cultures

Hippocampal astrocytes; Capsaicin; Vero cells; Protein synthesis inhibition; Tyrosine; Protection, **117**, 133

n-Octylamine; N-Deacetyl ketoconazole; Methimazole; Metabolite; Ketoconazole; Hepatotoxicity; Hepatocytes; Flavin-containing monooxygenases; Azole derivatives, **117**, 123

Primary cultures of myocardial cells

Mitochondrial membrane potential; Cocaine; Fluorescence microscopy, **112**, 1

Primary isolated hepatocytes

Metallothionein; Hepatotoxicity; Liver injury; Kupffer cell; Gadolinium chloride; Cadmium chloride, **121**, 155

Primary rat hepatocyte

Phosphoenolpyruvate carboxykinase; TCDD; 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin, **103**, 45

Primates

Hemolytic anemia; Carbapenem, **108**, 207

Probabilistic risk assessment

Cancer risk assessment; Butadiene; Comprehensive realism; Decision analysis; Distributions; Physiologically based pharmacokinetic models, **113**, 231

PROD, 7-pentoxyresorufin *O*-dependylase

TBARS, thiobarbituric acid reacting substances; Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl, **126**, 213

Production

Occurrence; Isoprene; Use; Toxicity, **113**, 242

Progesterone andestrogen receptors

Dicarboximide fungicide; Vinclozolin; Rat, **112**, 173

Progesterone receptors

MCF7 cells; Estrogen receptors; Estrogen bioassay; Toxaphene congeners, **138**, 69

Prograf

Spermatogenesis; Sperm counts and motility; Fertility potential, **109**, 75

Programmed cell death

Apoptosis; Cadmium; DNA fragmentation; Mi-ADMS; Testes (rat), **107**, 1

Apoptosis; Cadmium; Selenium; DNA fragmentation; Testes (rat), **116**, 169

Prolactin

Neurotoxicity; Two-sites analysis; [^{3}H]raclopride; Binding affinity; Dopamine receptor; Styrene; Xylene, **100**, 185

Prolamin peptides

Gliadin peptides; Gluten sensitive enteropathies; Coeliac disease; In vitro toxicology; Toxicity screening; Fetal intestines; Isolated cells; Cereals; Mannan; Oligomers of *N*-acetyl-glucosamine; Spermidine; Spermine; A-gliadin; Novel foods; Genetically-modified plant foods, **132**, 99

Prolamines

Peptides; A-Gliadin; Durum wheat; Cells; Coeliac disease; MAC, minimal agglutinating concentration; MALDI-MS, matrix-assisted laser-desorption ionization mass spectrometry; MIC, minimal inhibitory concentration; PT digest, peptic–tryptic digest, **127**, 97

Proliferation

Hepatotoxicity; Liver; B6C3F1 mouse; Furan; Apoptosis; Aminobenzotriazole; Biotransformation, **118**, 195

Inhalation; Mouse; Benzene; Immunotoxicity; Apoptosis; Lymphocytes, **118**, 137

Lead; Vascular endothelial cell; Atherosclerosis; Fibroblast growth factor, **117**, 193

T cells; Apoptosis; Immunotoxicity; TCDD, **129**, 211

Promotion

Carcinogen; Antagonism; Additivity; Synergism; Interaction, **105**, 121

Initiation; Cell proliferation; Apoptosis; Altered hepatic foci, **102**, 141

Pronephros

Immunotoxicity; Hexachlorocyclohexane; Lindane; Fish, **118**, 211

Prooxidants

Antioxidant depletion; Lipid peroxidation; Hemoglobin-induced injury; High energy impulse noise; Blast overpressure; Methemoglobin; Oxoferryl hemoglobin, **121**, 81

2-Propen-1-ol

Allyl alcohol; Dithiothreitol; Pyridine nucleotide; Isolated rat hepatocyte, **106**, 85

Propoxur

PHC; 2-sec-Butylphenyl methylcarbamate; BPMC; Physostigmine; Cholinesterase inhibitor; Non-cholinergic; Cardiovascular, **117**, 163

Propyl gallate

Cytotoxicity; Mitochondrial dysfunction; ATP depletion; Hepatocytes; Antioxidant, **114**, 135

Propylene oxide

Biomonitoring; Hemoglobin adducts; Rat; Toxicokinetics, **134**, 1

Propylthiouracil

Anti-myeloperoxidase antibodies; Drug-induced lupus; ANCA; Taurine, **114**, 155

Prostaglandins

Peroxisome; Eicosanoid; Cyclooxygenase; Phospholipase A2; Ciprofibrate, **126**, 65

Capsaicin; Sensory nerves; Ketanserin; Mast cells; Epithelium; NK1 receptors; Compound 48/80; Trachea; Intrapulmonary bronchus, **122**, 101

Eicosanoids; Phenobarbital; Ciprofibrate; Peroxisome, **123**, 101

Protection

Cell injury; Liver; Paracetamol; Fructose; Glycerol, **103**, 113

Cell injury; Trifluoperazine; Fructose; Cyclosporin A; Paracetamol; Mitochondrial membrane potential; $TPMP^+$, **107**, 201

Chloroform; Carbon tetrachloride; Bromobenzene; Hepatotoxicity; Clofibrate; APAP, acetaminophen; BrB, bromobenzene; BUN, blood urea nitrogen; CFB, clofibrate; CCl_4, carbon tetrachloride; $CHCl_3$, chloroform; SDH, sorbitol dehydrogenase, **127**, 1

Diabetes; Nephrotoxicity; Metallothionein; Zinc; Cadmium; Streptozotocin, **106**, 55

Fructose; ATP depletion; Hepatocytes; Hydrazine, **120**, 225

Hepatotoxicity; Bile duct toxicant; Taurine; Diaminodiphenylmethane; 4'; 4, **122**, 193

L-nitroarginine methyl ester, L-NAME; Nitric oxide synthase, NOS; Nitric oxide, NO; Neuron culture; Mechanism; Chemical warfare agent; Sulphur mustard, bis (2-chloroethyl) sulphide, HD; Toxicity, **131**, 21

L-nitroarginine methyl ester, L-NAME; Neuron culture; Hypothermia; Human skin keratinocyte culture; Hairless guinea pig; Chemical warfare agent; Sulphur mustard, bis(2-chloroethyl) sulphide, HD; Temperature; Toxicity, **134**, 27

Tyrosine; Protein synthesis inhibition; Vero cells; Primary cultures; Hippocampal astrocytes; Capsaicin, **117**, 133

Protective effects

Mitogens; Immunmodulation; Lymphocytes; N-acetylcysteine, **116**, 219

Protein binding

Kidney; Ochratoxin A; MDCK cells; OK cells, **114**, 177

Kidney; Ochratoxin A; Renal cell lines; Aspartame, **135**, 1

Protein calorie malnutrition

Cadmium; Rhesus monkey; Renal brush border membrane; Metallothionein, **100**, 89

Protein covalent binding

Erythrocytes; Nitroarenes, **108**, 101

Protein denaturation

Lipophilicity; Induction; Heat shock protein; Cytotoxicity; C6 rat glioma, **123**, 185

Protein kinase C

Lead acetate; Glucocorticoids; Hepatoma cells, **119**, 155

Lymphocytes; Dioxin; Cytochrome P450 1A1; Biomarkers, **124**, 39

Phosphorylation; Phospholipids; Melittin; Mammary gland; Lysophospholipids; Gangliosides, **104**, 73

PKC inhibitors; Hypoxia; Piperazines; Cyanide antidotes; Mediators, **100**, 129

Receptor binding; C6 cells; Lead acetate; Glucocorticoids, **116**, 109

Protein synthesis

Immunotoxicity; Mycotoxin; Deoxynivalenol; Vomitoxin; Trichothecene; IgA; Cytokine; Interleukin; IL-2; IL-4; IL-5; IL-6; Spleen; Peyer's patches; IgA nephropathy, **122**, 145

Lung disease; Passive smoking; Tobacco smoke; Cell toxicity, **100**, 163

Protein synthesis inhibition

Vero cells; Primary cultures; Hippocampal astrocytes; Capsaicin; Tyrosine; Protection, **117**, 133

Protein tyrosine kinase

Mechanism of action; Hexachlorobenzene; Epidermal growth factor receptor; Membrane protein phosphorylation, **125**, 83

Proteinuria

Rat; Short-interval injections; Cadmium-metallothionein; Nephrotoxicity; Calciuria, **112**, 151

Proteinuria and glucosuria

Proximal tubular toxins; Nephrotoxicity; Fungal toxin; Citrinin; Dogs, **106**, 167

Proteoglycan

Glycosaminoglycan; Heparan sulfate; Fibroblast growth factor; Endothelial cell; Lead, **133**, 147

Lead; Heparan sulfate; Endothelial cells; Vascular, **118**, 1

Perlecan; Heparan sulfate; Fibroblast growth factor; Endothelial cell; Lead, **133**, 159

Proteolysis

Liver fibrosis; Hepatic stellate cells, **137**, 1

Proteratogens

Embryotoxicity; Embryopathy; Murine embryo-hepatocyte co-culture model; Cyclophosphamide; Bioactivating system, **102**, 259

Proton-induced X-ray emission

Emission spectroscopy; Chelators; Metals; Kidney slices, **116**, 67

Proximal tubular cells

Lead; DMSA; Ca^{2+} transients, **138**, 81

Proximal tubular toxins

Nephrotoxicity; Fungal toxin; Citrinin; Proteinuria and glucosuria; Dogs, **106**, 167

Proximal tubules

Kidney; Ochratoxin A; Secretion; Organic anion transport, **120**, 11

Kidney cells; Distal tubules; Primary cell culture; *tert*-Butyl-hydroperoxide; Methyl vinyl ketone; *para*-Aminophenol, **103**, 85

Kidney cells; Distal tubules; Thiophenes; 4-(2-Thienyl)butyric acid; Oxidative stress; Cytotoxicity, **103**, 167

PT digest, peptic–tryptic digest

MIC, minimal inhibitory concentration; MALDI-MS, matrix-assisted laser-desorption ionization mass spectrometry; MAC, minimal agglutinating concentration; Prolamines; Peptides; A-Gliadin; Durum wheat; Cells; Coeliac disease, **127**, 97

Public health

Risk; Waste sites; Mixtures, **105**, 145

Pulmonary

Contusion; Barotrauma; Treatment; Blast overpressure, **121**, 105

Eicosanoids; Leukotrienes; Lung; Airway; Inflammation; Pollutants, **114**, 187

Pulmonary hypersensitivity

Konjac gum; Yam flour; Konjac flour; Allergic asthma, **124**, 115

Pulmonary toxicity

Fibrosis; Lung; Amiodarone; Vitamin E; Dietary supplementation, **133**, 75

Purine deoxynucleosides

Liquid chromatography/electrospray ionization tandem mass spectroscopy (LC/ESI MS/MS); 1,2-Epoxybutene; Adducts, **113**, 331

Purkinje cell loss

Mercury vapour; GFAP-positive cell; Gliosis; Brown Norway rat, **104**, 83

Pyrene

Polycyclic aromatic hydrocarbons; 1-Hydroxypyrene; Biliary excretion kinetics; Urinary excretion kinetics, **127**, 69

Pyrethroids

Insecticide; Developmental immunotoxicity; Cypermethrin; Lymphoid organs; Immunoproliferative response, **125**, 67

Insecticide; Developmental immunotoxicity; Cypermethrin; Natural killer cells; Cytotoxicity, **120**, 231

Insecticide; Immunoproliferative response; Developmental immunotoxicity; Catecholamines; T cell subsets, **138**, 175

Pentobarbital; Narcosis, **106**, 131

Pyridine

Benzene; Lung; Liver; Microsomes; Metabolism, **104**, 53

Pyridine nucleotide

Dithiothreitol; 2-Propen-1-ol; Allyl alcohol; Isolated rat hepatocyte, **106**, 85

Pyridostigmine

Physostigmine; Eptastigmine; Phosphotriesterase; Sarin; Mice, **134**, 169

Pyruvate dehydrogenase

Thiol; Cardiac myocytes; Antimony; Glutathione; Adenine nucleotides, **119**, 203

Q

QSAR

Computer systems; Artificial intelligence; Expert systems; Toxicity, **119**, 213

Molecular modelling; Omeprazole, **125**, 31

QT prolongation

Antifungal agent; D0870; Sudden death; TdP; Dogs, **132**, 187

Quantitative

Riskmanagement; Risk assessment; Uncertainty, **111**, 5

Quantitative risk assessment

Biologically based dose response models; Toxicological mechanisms; Mutagenesis; Ames assay; Carcinogenesis; Multi-stage model; Two-stage clonal expansion model; Developmental toxicity; Dirichlet-multinomial model; Physiologically based pharmacokinetics; Receptor-binding, **102**, 53

Quinacrine

Chloroquine; Tilorone; Lysosomes; SulphatedGlycosaminoglycans; Lipidosis, **110**, 27

R

RA, all-*trans*-retinoic acid

Developmental toxicity; Embryonic carcinoma cells; P19 cells; CNS, day 12 rat embryo midbrain cells; DABA, 2,4-diaminobutyric acid; DMEM, Dulbecco's minimal essential medium; DMSO, dimethylsulfoxide; DPBS, Dulbecco's phosphate-buffered saline; EC_{50}, effective concentrations causing 50% decrease in viability or differentiation; EMS, ethyl methanesulfonate; ENU, ethylnitrosourea; GABA, γ-amino butyric acid; MMS, methyl methanesulfonate; MNU, methylnitrosourea; NER, nucleotide excision repair, **127**, 49

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***Ras* activation**

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RU38486

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Sarcophyton glaucum

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Phosphotriesterase; Eptastigmine; Physostigmine; Pyridostigmine; Mice, **134**, 169

SCE, sister chromatid exchange

VCM, vinyl chloride monomer; SCGE, single-cell gel electrophoresis; Comet assay; Single-cell gel electrophoresis; DNA damage; Vinyl chloride monomer; Plastics workers; TLV, threshold limit value; CAA, chloroacetaldehyde; CEO, chlorethylene oxide, **128**, 9

Scenario analysis

Fire hazard assessment; Test method selection, **115**, 179

SCGE, single-cell gel electrophoresis

Comet assay; Single-cell gel electrophoresis; DNA damage; Vinyl chloride monomer; Plastics workers; VCM, vinyl chloride monomer; SCE, sister chromatid exchange; TLV, threshold limit value; CAA, chloroacetaldehyde; CEO, chlorethylene oxide, **128**, 9

Schwann cell

Cell culture; Mitosis; 2,5-Hexanedione; 2,5-Dimethylfuran, **108**, 25

SCID-hu

Immunotoxicology; Thymus; Organotins; Caramel colour III; Risk assessment, **100**, 203

science policy

Risk assessment; PBPK; Uncertainty; Default assumptions; BBDR, **102**, 3

Scoring system

Metadatabank; Online databases; Toxicology clusters; Toxicology databases; Toxicology information; Hasse-diagram, **100**, 225

Screening

24-h occlusive patch sensitization (24CP); Guinea pig; Lymph node cell proliferation assay; Contact hypersensitivity, **114**, 47

Scutellaria baicalensis

Nitric oxide; Peritoneal macrophages; Staurosporin; Tumor necrosis factor-α, **135**, 109

SDH, sorbitol dehydrogenase

$CHCl_3$, chloroform; CCl_4, carbon tetrachloride; CFB, clofibrate; BUN, blood urea nitrogen; BrB, bromobenzene; APAP, acetaminophen; Protection; Chloroform; Carbon tetrachloride; Bromobenzene; Hepatotoxicity; Clofibrate, **127**, 1

SDHT=L-serine dehydratase

TAT=L-tyrosine aminotransferase; 3-Methylcholanthrene; Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital; HC=hydrocortisone acetate; TCDD=2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT=L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase, **126**, 127

Seals

Immunotoxicology; Morbillivirus; PCBs; PCDDs; PCDFs, **112**, 157

2-sec-Butylphenyl methylcarbamate

BPMC; Physostigmine; Cholinesterase inhibitor; PHC; Propoxur; Non-cholinergic; Cardiovascular, **117**, 163

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Proximal tubule; Kidney; Ochratoxin A; Organic anion transport, **120**, 11

Se-distribution

HPLC/ICP-MS; Trimethylselenonium ion; Monomethylselenol; Selenium; Stable isotope tracer, **103**, 157

Se-GSH-px, selenium-dependent glutathione peroxidase

TBA, 2-thiobarbituric acid; TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde, **126**, 55

Seizure

Lethality; Cocaethylene; Benzodiazepine; Ro 15-4513; Ethanol; Cocaine, **117**, 171

Seizure threshold

Rat brain; Transketolase; Thiamine; Lead, **133**, 105

Selective coumarin 7-hydroxylase inducer

Kidney; Inorganic tin; CYP2A5; Coumarin 7-hydroxylase; Coumarin; Stannous chloride, **108**, 73

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Toxicity; Metabolism; Absorption; Hepatocytes, **100**, 151

Selenium

Cadmium; Apoptosis; Programmed cell death; DNA fragmentation; Testes (rat), **116**, 169

Monomethylselenol; Trimethylselenonium ion; HPLC/ICP-MS; Se-distribution; Stable isotope tracer, **103**, 157

Semicarbazide

Phenelzine; β-aminopropionitrile; Allylamine; l-Cysteine; Aortic smooth muscle; Vascular media, **125**, 107

Semicarbazide-sensitive amine oxidase

Rat; Medial injury; Lysyl oxidase; Lathyrism; Heart; Aorta; Allylamine; β-Aminopropionitrile; Vascular toxicity, **138**, 137

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Apoptosis; Necrosis; Arsenic; Indium, **118**, 129

Seminiferous tubule

1,3-Dinitrobenzene; Testicular metabolism; Testicular toxicity; In vitro testicular model, **123**, 15

Sensitisation

Permeability; Intestine; Saponin; Milk; Allergy, **117**, 219

Sensitive populations

Reproductive and developmental toxicity; Risk assessment; Trichloroethylene; Monte Carlo simulation, **111**, 271

Sensitive subpopulations

Variability; Risk assessment; Pharmacokinetic modeling, **111**, 315

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Cadmium chloride; Tolerance; Step down; Heat shock proteins, **116**, 27

Mesolimbic system; Formalin; Formaldehyde; Chemical sensitivity, **111**, 135

Olfactory; Limbicnervous system; Environmental chemical intolerance; Validity, **111**, 101

Rosin; Gravimetric; Colophony; Analysis; Airborne, **111**, 225

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Sensitizers

Dermal application; Rats; Lymph node activation; IgE, **117**, 229

Sensory nerves

Ketanserin; Mast cells; Capsaicin; Prostaglandins; Epithelium; NK1 receptors; Compound 48/80; Trachea; Intrapulmonary bronchus, **122**, 101

Sequence of exposure

Toxicity; Arsenic; Cadmium; Rat, **116**, 89

Serum bile acids

Xylene; Uptake; Efflux, **120**, 1

Serum factor

RU38486; Glucocorticoid; Metallothionein; Colchicine; Induction, **116**, 201

Sex

Fever; Organophosphate; Hyperthermia; Hypothermia; Sodium salicylate; Cyclooxygenase, **118**, 149

Sheep

Blast overpressure; Lung injury; Exercise performance, **121**, 51

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Short-interval injections

Cadmium-metallothionein; Nephrotoxicity; Rat; Proteinuria; Calciuria, **112**, 151

SH-SY5Y cells

Pesticides; Mixture, **108**, 201

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Lysosomes; Lipid peroxidation; *cis*-Dichlorodiamineplatinum; 6-Bromo-6-deoxy-L-ascorbic acid, **137**, 23

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GM-CSF; G-CSF; Interleukin-2; Interferons; Cytokines; Autoimmunity; Immune disorders, **105**, 31

Monoclonal antibody; Orthoclone OKT3; Muromonab CD3; Immunosuppressive agents, **105**, 23

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Arsenic; Development; Metal; Preimplantation embryo; Aluminum; Vanadium; Lead; Zinc; Copper; Manganese; Iron; Cadmium; Mercury; Chromium, **116**, 123

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DNA damage; Vinyl chloride monomer; Plastics workers; Comet assay; SCGE, single-cell gel electrophoresis; VCM, vinyl chloride monomer; SCE, sister chromatid exchange; TLV, threshold limit value; CAA, chloroacetaldehyde; CEO, chlorethylene oxide, **128**, 9

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SKF 525-A

In vitro bioactivation; Dichloroacetic acid; Chloroform; Piperonyl butoxide, **124**, 53

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Skin irritation

Electron paramagnetic resonance; Spin traps; Nitroxide free radicals; Skin sensitization, **126**, 33

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Skin sensitisation

Genotoxicity; DEREK; Toxicity; Structure-activity relationships; Computer prediction; Carcinogenicity, **106**, 267

Local lymph node assay; Chemical allergens; Hypersensitivity; Predictive testing, **108**, 141

Local lymph node assay; Chemical allergens, **103**, 63

Skin irritation; Electron paramagnetic resonance; Spin traps; Nitroxide free radicals, **126**, 33

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Combustion toxicology; Fire gases; Asphyxiants; Irritants, **115**, 7

Smokeless tobacco

Epstein–Barr virus; Virus induction; 12-*O*-tetradecanoyl phorbol-13-acetate; *n*-Butyrate; Fluorescence-activated cell sorter flow cytometry, **133**, 35

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Urinary excretion; Potassium; β_2-Microglobulin; Environmental cadmium, **127**, 187

Sodium arsenite

Heat shock proteins; Cadmium chloride; Stressors, **127**, 107

Sodium dehydroacetate

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Sodium nitrite

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Behavioural incapacitation; HI-6; Pharmacokinetics; Marmosets; Acetylcholinesterase; Repeated dose; Guinea pigs, **112**, 183

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HI-6; Atropine; Benactyzine; Biperiden; Acetylcholinesterase; Corticosterone; Tyrosine aminotransferase; Rat, **116**, 147

HI-6; Obidoxime; Acetycholinesterase; Corticosterone; Tyrosine aminotransferase; Rat, **101**, 167

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Fenthion; Chlorpyrifos; Alachlor; Chlordane; Endrin; PC-12 cells; Reactive oxygen species; Lipid peroxidation; Chemiluminescence; DNA damage; Lactate dehydrogenase, **104**, 129

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Mice; Rats; Inhalation; Butadiene; Epoxide metabolites; Glutathione depletion, **113**, 306

Species extrapolation

Rat; PBPK model; Mouse; Man; Glutathione; 1,2-Epoxybutene-3; 1,3-Butadiene, **113**, 40

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Spermine

Spermidine; Oligomers of *N*-acetyl-glucosamine; Mannan; Cereals; Isolated cells; Fetal intestines; Toxicity screening; In vitro toxicology; Prolamin peptides; Gliadin peptides; Gluten sensitive enteropathies; Coeliac disease; A-gliadin; Novel foods; Genetically-modified plant foods, **132**, 99

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Sperm; Reactive oxygen species; Lead toxicity; Vitamin C; Vitamin E, **128**, 169

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Peritoneal macrophages; Nitric oxide; *Scutellaria baicalensis*; Tumor necrosis factor-α, **135**, 109

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Streptozotocin

Cadmium; Zinc; Metallothionein; Nephrotoxicity; Diabetes; Protection, **106**, 55

Stress proteins

Heat shock protein 70; Lung toxicology; Nitric acid; Ozone; Inhalation, **107**, 111

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Sodium arsenite; Heat shock proteins; Cadmium chloride, **127**, 107

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Biomonitor; Caenorhabditiselegans; Captan; N-(trichloromethylthio)cyclohex-4-ene-1; 2-dicarboximide; Fungicide, **109**, 119

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Structure–nephrotoxicity relationships

Nephrotoxicity; Succinimides; Rats; Fungicides, **132**, 127

Structure-activity

Carboxylesterase; Methacrylate esters; Acrylate esters, **116**, 153

Cross-reactivity; IgG1; Guinea pigs; Organic acid anhydrides, **118**, 223

Structure-activity relationship

Computer prediction; Toxicity; DEREK; Genotoxicity; Skin sensitisation; Carcinogenicity, **106**, 267

Halomethanes; Haemoproteins; Haemoglobin; Suicidal inactivation; Cytochrome P-450, **100**, 175

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Defined/complex mixtures; Standard setting, **105**, 415

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1,3-Butadiene; Leukemia; Carcinogenicity, **113**, 182

1,3-Butadiene; Occupational exposure; Leukemia; Synthetic rubber; Epidemiologic methods; Follow-up studies, **113**, 190

Butadiene; Physiologically based pharmacokinetic model; Mixture; Interactions, **113**, 310

Ethanol; Glutathione; Brain, **106**, 115

Xylene; Dopamine receptor; Binding affinity; [^{3}H]raclopride; Two-sites analysis; Neurotoxicity; Prolactin, **100**, 185

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8-oxide; Human white blood cells; DNA fragmentation, **120**, 111

Subcellular fractionation

Covalent binding; Acetaminophen-binding proteins; Tissuedistribution, **109**, 85

Subchronic

Chlorpropham; Hemotoxicity; Rat; Methemoglobin, **123**, 111

Subchronic treatment

Smokeless tobacco; Lipid peroxidation; DNA damage; Urinary excretion; Lipid metabolites, **127**, 29

Submandibular glands

Ultrastructural; Cyclosporin; Rat, **108**, 65

Submitochondrial particles

Picloram; 2,4-D; Surfactant, **136**, 41

Substance P

C-fibers; Environmental tobacco smoke; Neurokinin A, **112**, 195

Substrate selectivity

Molecular modelling; CYP2A6; Coumarin 7-hydroxylase, **133**, 1

Succimer

NAC; Oxidative stress; Lead; Red blood cells, **128**, 181

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Nephrotoxicity; Glutathione; Buthionine sulfoximine, **117**, 207

Nephrotoxicity; Structure–nephrotoxicity relationships; Rats; Fungicides, **132**, 127

Rats; Nephrotoxicity; Fungicides; Glucuronidation, **132**, 43

Rats; Nephrotoxicity; Metabolism, **117**, 73

Sudden death

QT prolongation; Antifungal agent; D0870; TdP; Dogs, **132**, 187

Suicidal inactivation

Structure-activity relationship; Halomethanes; Haemoproteins; Haemoglobin; Cytochrome P-450, **100**, 175

Sulfation

Nephrotoxicity; Rats; Fungicides; Bioactivation, **123**, 1

Rats; Nephrotoxicity; Fungicides; Bioactivation, **138**, 165

Sulfoxidation; Risk assessment; Sulfur-dependent detoxification pathways; Xenobiotic metabolism; Idiopathic environmental intolerance, **111**, 43

Sulfoxidation

Risk assessment; Sulfur-dependent detoxification pathways; Xenobiotic metabolism; Sulfation; Idiopathic environmental intolerance, **111**, 43

Sulfur mustard

Animal model; Inflammation; Rabbits, **120**, 105

Sulfur mustard derivatives

Vesicant; Monofunctional mustard; 4-Carboxybutyl 2-chloroethyl sulfide; 10- Carboxydecyl 2-chloroethyl sulfide, **108**, 125

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Xenobiotic metabolism; Risk assessment; Sulfoxidation; Sulfation; Idiopathic environmental intolerance, **111**, 43

Sulphated Glycosaminoglycans

Lysosomes; Tilorone; Quinacrine; Chloroquine; Lipidosis, **110**, 27

Sulphur mustard, bis (2-chloroethyl) sulphide, HD

Protection; L-nitroarginine methyl ester, L-NAME; Nitric oxide synthase, NOS; Nitric oxide, NO; Neuron culture; Mechanism; Chemical warfare agent; Toxicity, **131**, 21

Protection; L-nitroarginine methyl ester, L-NAME; Neuron culture; Hypothermia; Human skin keratinocyte culture; Hairless guinea pig; Chemical warfare agent; Temperature; Toxicity, **134**, 27

Tissue culture; Lung; MTT; Histopathology; Toxicology, **100**, 39

Superoxideanion

Macrophage; Cadmium; Nitricoxide; Lactate dehydrogenase leakage; DNA damage; Cell viability, **112**, 219

Surfactant

Submitochondrial particles; Picloram; 2,4-D, **136**, 41

Surfactant dysfunction

Airway inflammation; Airway resistance; Asthma, **125**, 21

Surveillance

Health; Beryllium; Sensitization; Exposure, **111**, 213

Survivability

Full-scale fire tests; Toxic gases; Flashover; Aircraft fire safety, **115**, 79

Survival model

Aircraft survivability; Toxicity model; Fractional effective dose; Inhalation toxicity, **115**, 167

Susceptibility

Clinical significance; Biological plausibility; Value-of-information model; Tennant-Ashby challenge; Interspecies differences, **102**, 23

Nephrotoxicity; Hepatotoxicity; Acute toxicity; Dietary protien; Methylmercury, **111**, 21

Nephrotoxicity; Hepatotoxicity; Acute toxicity; Dietary protien; Methylmercury, **112**, 11

Variability; Risk assessment; Dose response; Risk factors, **111**, 253

Suspended particulate matter

Popliteal lymph node; Diesel exhaust; IgE; Adjuvant, **129**, 227

Swiss Webster (CD-1) mice

Teratogenicity; Limb defects; 5-AZA-2′-deoxycytidine (DNA demethylating agent); Intraperitoneal injection, **112**, 37

Synergism

Additivity; Antagonism; Carcinogen; Promotion; Interaction, **105**, 121

Departures from additivity; Response surface; Contour of constant response; Interaction index; Isobologram; Antagonism, **105**, 181

Induction; Glucocorticoid; Interleukin-6; Lipopolysaccharide; Metallothionein, **112**, 29

Synergists

Biphasic response; Cytochrome P450; Inhibition; Induction; Methylenedioxyphenyl compounds; Benzodioxoles, **105**, 211

Synthetic rubber

Styrene; 1,3-Butadiene; Occupational exposure; Leukemia; Epidemiologic methods; Follow-up studies, **113**, 190

Syrian hamster

Necrosis induction; Cadmium; Amyloidosis; Testicular tumor, **126**, 173

Systemictoxicity

Bitumen; Rat; Dermal exposure, **109**, 129

T

T cell

Apoptosis; Immunotoxicity; TCDD; Proliferation, **129**, 211

Neutropenia; Agranulocytosis; Neutrophil; Clozapine ([8-chloro-11-(4-methyl-1-piperazinyl)-3H-dibenzo (b,e)(1,4) diazepine antipsychotic), **131**, 67

Nucleated erythrocytes; NK; Macrophages; B cells; *p*-Chloronitrobenzene, **137**, 35

T cell subsets

Pyrethroid; Insecticide; Immunoproliferative response; Developmental immunotoxicity; Catecholamines, **138**, 175

T lymphocytes

Human; NF-κB; Dimethyldithiocarbamate, **128**, 83

Tachykinins

Airway hyperresponsiveness; Toluene diisocyanate; Neutral endopeptidase; Guinea pig, **116**, 17

Tacrolimus (FK506)

Cyclosporin A; Calcium; Adriamycin; Heart mitochondria, **131**, 175

Tacrolimus

Ascomycin; Immunosuppressants; FK506; Pharmacokinetics; Immunophilins; Nephrotoxicity, **125**, 169

Target organ interactions

Chemical mixtures; PB-PK modeling; Chemical toxicity, **105**, 343

TAT=L-tyrosine aminotransferase

3-Methylcholanthrene; Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital; HC=hydrocortisone acetate; TCDD=2,3,7,8-tetrachlorodibenzo-*p*-dioxin; ALT=L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO=indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT=L-serine dehydratase, **126**, 127

Taurine

ANCA; Drug-induced lupus; Anti-myeloperoxidase antibodies; Propylthiouracil, **114**, 155

Diaminodiphenylmethane; Bile duct toxicant; Hepatotoxicity; Protection, **122**, 193

Hepatic toxicity; Aflatoxin B1; Urine; Markers of toxicity, **118**, 159

Xenobiotic; Adducts; Biomarker; Creatine; NMR, **129**, 1

TBA, 2-thiobarbituric acid

TBARS, thiobarbituric acid reacting substances; Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase, **126**, 55

TBA, thiobarbituric acid

TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydro-

genase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate, **128**, 113

TBARS

Perchloroethylene; 8-Hydroxydeoxyguanosine; 8-Epiprostaglandin $F_2\alpha$; 2-Nitropropane; Tetrachloroethylene, **138**, 43

TBARS, thiobarbituric acid reacting substances

Bromobenzene; Garlic; Hepatotoxicity; Liver slices; AGE, aged garlic extract; ALT, alanine aminotransferase; BB, bromobenzene; DMSO, dimethylsulphoxide; DTNB, 5,5′-dithiobis-(2-nitrobenzoic acid); ECOD, 7-ethoxycoumarin *O*-deethylase; GSH, reduced glutathione; GSSG, glutathione disulphide; LDH, lactate dehydrogenase; NPSH, non-protein sulphydryl; PROD, 7-pentoxyresorufin *O*-depentylase, **126**, 213

Carbon tetrachloride; γ-Glutamylcysteinylethyl ester; Glutathione (reduced); Lipid peroxidation; Liver injury; ALT, alanine aminotransferase; AST, asparatate aminotransferase; CCl_4, carbon tetrachloride; DTNB, 5,5′-dithiobis(2-nitrobenzoic acid); γ-GC, γ-glutamylcysteine; γ-GCE, γ-glutamylcysteinyl ethyl ester; GSH, reduced glutathione; GSH-px, glutathione peroxidase; GSSG, oxidized glutathione; LPO, lipid peroxide; MDA, malondialdehyde; Se-GSH-px, selenium-dependent glutathione peroxidase; TBA, 2-thiobarbituric acid, **126**, 55

TBARS, thiobarbituric acid reactive substances

TCA, tricarboxylic acid; TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid, **128**, 113

TBP

Tributyl phosphate; Tri-*n*-butyl phosphate; Oncogenicity; Liver, **128**, 135

TCA, tricarboxylic acid

TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene; Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances, **128**, 113

TCDD

2,3,7,8-Tetrachlorodibenzo-*p*-dioxin; Melatonin; Metabolism; Rat strains, **107**, 85

2,3,7,8-Tetrachlorodibenzo-*p*-dioxin; Phosphoenolpyruvate carboxykinase; Primary rat hepatocyte, **103**, 45

Dioxin; Glucocorticoid; Ah receptor; Palate, **105**, 365

Fetotoxicity; Oxidative stress; Ellagic acid; Vitamin E succinate; Lipid peroxidation; DNA damage; C57-BL/6J mice; Placenta; Fetus, **124**, 27

Immunotoxicity; Apoptosis; T cells; Proliferation, **129**, 211

Mathematical models; 2,3,7,8-tetrachlorodibenzo-p-dioxin; Transforming growth factor beta 1; TGF-β, **102**, 223

Phosphoenolpyruvate carboxykinase; Interleukin-1; Delayed-type hypersensitivity reaction; Dioxin 2,3,7,8-Tetrachlorodibenzo-p-dioxin; Tumor necrosis factor, **116**, 9

2,3,7,8-TCDD

Hippocampal neurons; Calcium; And→-PKC, **112**, 19

TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin

TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]-anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide, **128**, 151

ALT=L-alanine aminotransferase; HMGCoAR=3-hydroxy-3-methylglutaryl Coenzyme A reductase; IDO= indoleamine 2,3-dioxygenase (L-tryptophan pyrrolase); PEPCK=phosphoenolpyruvate carboxykinase; SDHT= L-serine dehydratase; TAT=L-tyrosine aminotransferase; 3-Methylcholanthrene; Phenobarbital; Glucocorticoid hormone-regulated enzymes; Rat liver; Rat kidney; 3-MC=3-methylcholanthrene; PB=phenobarbital; HC= hydrocortisone acetate, **126**, 127

T-cell

Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis, **128**, 151

TdP

Sudden death; QT prolongation; Antifungal agent; D0870; Dogs, **132**, 187

TdT, terminal deoxynucleotide transferase

TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin, **128**, 151

Tea Tree oil

O-methylpodocarpic acid; Podocarpic acid; Dehydroabietic acid; Resin acids; Oleoresin; Cytotoxicity; Antibacterial effects; *S. aureus*; Epithelial cells; Fibroblasts; Neutral red assay, **107**, 99

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Sulphur mustard, bis(2-chloroethyl) sulphide, HD; Protection; L-nitroarginine methyl ester, L-NAME; Neuron culture; Hypothermia; Human skin keratinocyte culture; Hairless guinea pig; Chemical warfare agent; Toxicity, **134**, 27

Temperature gradient

Temperature regulation; Behavioral thermoregulation; Motor activity; Hypothermia; Hyperthermia; Fever, **124**, 165

Temperature regulation

Cytokines; Fever; Organophosphate; Pesticide, **134**, 9

Temperature gradient; Behavioral thermoregulation; Motor activity; Hypothermia; Hyperthermia; Fever, **124**, 165

Temporal variation

Circadian rhythm; Acetaminophen; *p*-Nitrophenol hydroxylase; Ethoxyresorufin *O*-deethylase; Hepatotoxicity; Glutathione; APAP, acetaminophen; ALT, alanine aminotransferase; AST, aspartate aminotransferase; G-6-Pase, glucose-6-phosphatase; GSH, glutathione; NAPQI, *N*-acetyl-*p*-benzoquinonimine; UDPGA, uridine diphosphate-glucuronic acid; NADPH, reduced nicotinamide adenine dinucleotide phosphate; DTNB, 5,5′-dithio-bis(2-nitrobenzoic acid); ANOVA, one-way analysis of variance; CYP1A2, cytochrome P450 1A2; CYP2E1, cytochrome P450 2E1, **128**, 53

Tenability

Behaviour; Toxicity; Smoke; Fires; Aircraft, **115**, 25

Teniposide

Micronuclei; Lactate dehydrogenase release; Growth kinetics; Cell survival; Cell proliferation; Tumor promotion; Phospholipids; Nuclear proteins; Lipids; Ethanol; Acetaldehyde; V79 cells, **138**, 19

Tennant-Ashby challenge

Value-of-information model; Susceptibility; Clinical significance; Biological plausibility; Interspecies differences, **102**, 23

Tetratogenicity

Antifolates; Dihydrofolate reductase; Kinetic modelling; Simulation; Thymidylate synthase, **102**, 197

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Valproic acid; Aggregation culture system; Cerebellar neurons, **116**, 159

***tert*-Butyl hydroperoxide**

Isolated cardiomyocytes; Oxidant stress; Adenine nucleotide degradation; Cytotoxicity; Electron microscopy, **106**, 39

Primary cell culture; Distal tubules; Proximal tubules; Kidney cells; Methyl vinyl ketone; *para*-Aminophenol, **103**, 85

Test method selection

Scenario analysis; Fire hazard assessment, **115**, 179

Testes

DNA fragmentation; Apoptosis; Deltamethrin; Nitric oxide; Nitric oxide synthase inhibitor, **132**, 1

Oxidative stress; Free radicals; Cadmium; Zinc deficiency, **137**, 13

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DNA fragmentation; Programmed cell death; Apoptosis; Cadmium; Selenium, **116**, 169

M*i*-ADMS; DNA fragmentation; Programmed cell death; Apoptosis; Cadmium, **107**, 1

Testes oxidation

Reproduction; Antioxidants; Vitamin E, **132**, 179

Testicular interstitial cells

Metallothionein; Cadmium; Liver, **107**, 121

Testicular metabolism

Seminiferous tubule; 1,3-Dinitrobenzene; Testicular toxicity; In vitro testicular model, **123**, 15

Testicular toxicity

Nickel; Chelate effect; N-Benzyl-d-glucaminedithiocarbamate; Diethyldithiocarbamate; meso-2,3-Dimercaptosuccinic acid, **103**, 147

Testicular metabolism; Seminiferous tubule; 1,3-Dinitrobenzene; In vitro testicular model, **123**, 15

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3,3′,4,4′-Tetrachlorobiphenyl

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2,3,7,8-Tetrachlorodibenzo-*p*-dioxin

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Chrysene; Benzo[a]pyrene; Ah receptor; Immunosuppression; CYP1A induction, **105**, 375

2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)

Brown adipose tissue; Liver; Deiodinases; Thyroid hormones, **114**, 199

Thymus; Immunotoxicology; Negative selection; Hepatic mononuclear cells, **103**, 195

Toxic equivalency factors (TEFs); Risk assessment; Polychlorinated dibenzofurans; Polychlorinated biphenyls; Polyhalogenated aromatic hydrocarbons, **105**, 391

2,3,7,8-Tetrachlorodibenzo-*p*-dioxin

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Humoral-mediated immunity; ELISA; Dose-response; Delayed-type hypersensitivity (DTH); Cell-mediated immunity; Time course, **106**, 221

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TCDD; Mathematical models; Transforming growth factor beta 1; TGF-β, **102**, 223

TCDD; Melatonin; Metabolism; Rat strains, **107**, 85

TCDD; Phosphoenolpyruvate carboxykinase; Primary rat hepatocyte, **103**, 45

Trichinella spiralis; Aging; Host resistance; Immunosuppression, **136**, 15

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12-*O*-tetradecanoyl phorbol-13-acetate

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Tetrahymena pyriformis

Anaesthetic-like; Toxicity; Opioids; Hydrophobicity; Partition coefficient, **117**, 35

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Formaldehyde; Lymphocyte transformation; Contact hypersensitivity; Epidermal cells, **104**, 17

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Biliary excretion of Cu and Cd; Long-Evans Cinnamon (LEC) rats; Wilson disease, **120**, 47

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Th1

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Theaitetos

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Chemical sensitivity; Environmental exposure; Environmental etiology; Toxin-induced loss of tolerance, **111**, 69

Thevetin A

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Thiamine

Lead; Transketolase; Rat brain; Seizure threshold, **133**, 105

4-(2-Thienyl)butyric acid

Thiophenes; Distal tubules; Proximal tubules; Kidney cells; Oxidative stress; Cytotoxicity, **103**, 167

Thioacetamide

Dose-response for tissue repair; Carbon tetrachloride; Chlordecone; Tissue repair; Maximum tolerated doses; Risk assessment, **105**, 251

Liver cirrhosis; Nutritional status; Pair-fed; Amino acids; Net uptake, **132**, 155

Tissuerepair; Cell division; Glucose; Palmitic acid; L-carnitine, **111**, 163

Thioacetamide (TAA)

Liver cirrhosis; Amino acids; Transaminases; Threonine deaminase; Glutamate dehydrogenase, **106**, 197

Liver perfusion; Liver dysfunction; Ammonia; Amino acids; Ureagenesis, **135**, 21

Thiobarbituric acid reactive product

DNA degradation; Bleomycin; Iron; Glutathionyl hydroquinone; Benzoquinone; Hydroquinone; Benzene, **106**, 49

Thioether and D-glucaricacid excretion

Micronucleus; Urine mutagenicity; MX; 3-Chloro-4-(dichloromethyl)-5-hydroxy-2[5*H*]-furanone; Xenobiotic metabolism, **110**, 59

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Ethacrynic acid; Menadione; Renalproximal tubular cells; Transepithelial transport; Metabolism, **112**, 117

Thiol

Cardiac myocytes; Antimony; Pyruvate dehydrogenase; Glutathione; Adenine nucleotides, **119**, 203

Metal ions; Mercury; Hep G2 cell line; HeLa cell line; Endothelial cell line; Copper; Cadmium, **126**, 203

Plasma membrane; Lymphocytes; Metallothionein, **108**, 129

Silver; Redox status; Metal ions; Mercury; HeLa cell culture; Copper; Cadmium, **117**, 89

Thiol oxidation

Metallothionein; Metal-binding; Free radicals; Hydrogen peroxide, **120**, 37

Thiophenes

Distal tubules; Proximal tubules; Kidney cells; 4-(2-Thienyl)butyric acid; Oxidative stress; Cytotoxicity, **103**, 167

Thiourea

Hepatocytes; Structure-toxicity relationships, **125**, 117

THP, trihexyphenidyle

RR, respiratory rate; OP, organophosphate; MRV, minute respiratory volume; MAP, mean arterial pressure; ECG, electrocardiogram; BNZ, benactyzine; AChE, acetylcholinesterase; ACh, acetylcholine; Rat; Circulation; Respiration; Benactyzine; HI-6; Cholinergic–anticholinergic pretreatment; Soman, **128**, 1

Threonine deaminase

Transaminases; Amino acids; Liver cirrhosis; Thioacetamide (TAA); Glutamate dehydrogenase, **106**, 197

Thymic lymphosarcoma

SP2/O cells; Inhibition of protein synthesis; Toxic protein; *Boletus satanas*; Mushroom; Bolesatine, **103**, 121

Thymidylate synthase

Simulation; Kinetic modelling; Dihydrofolate reductase; teratogenicity; Antifolates, **102**, 197

Thymocyte

Mouse; Fusarenon-X; Apoptosis; Mycotoxin; Immunotoxicity; Flow cytometry, **127**, 195

Thymus; Apoptosis; Cell death; Leydig cell; Ethylene dimethanesulphonate, **120**, 19

Thymus

Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α; TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene, **128**, 151

Cyclosporine; Dendritic cell; Epithelial cell; Rat, **110**, 133

Metallothionein; Apoptosis; DNA fragmentation, **134**, 39

SCID-hu; Immunotoxicology; Organotins; Caramel colour III; Risk assessment, **100**, 203

Spleen; Intestine; Testis; DNA synthesis; Paracetamol; Liver, **116**, 49

2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD); Immunotoxicology; Negative selection; Hepatic mononuclear cells, **103**, 195

Thymocyte; Apoptosis; Cell death; Leydig cell; Ethylene dimethanesulphonate, **120**, 19

Thyroid hormones

Deiodinases; Liver; Brown adipose tissue; 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), **114**, 199

Thyroxin

Fetus; Hydroxylated metabolite; Polychlorinated biphenyl (PCB); Transthyretin; Mouse, **106**, 105

Thyroxine

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Tight junction

Membrane fluidity; Cytotoxicity; Cell permeability; ARDS; Tricyclic antidepressants, **136**, 1

Tilorone

Dicationic amphiphilic drugs; Glycosaminoglycans; Lysosomal storage, reversibility of; GAG, sulphated glycosaminoglycans; CS, chondroitin sulphate; DS, dermatan sulphate; HS, heparan sulphate; PBS, phosphate-buffered saline, **128**, 91

Quinacrine; Chloroquine; Lysosomes; SulphatedGlycosaminoglycans; Lipidosis, **110**, 27

Time course

2,3,8-Tetrachlorodibenzo-*p*-dioxin; Humoral-mediated immunity; ELISA; Dose-response; Delayed-type hypersensitivity (DTH); Cell-mediated immunity, **106**, 221

Tiron

Rats; Nephrotoxicity; Uranyl acetate; DTPA, **118**, 49

Tissue copper distribution

Copper excretion; D-Penicillamine; Zinc acetate, **126**, 195

Tissue culture

Sulphur mustard, bis-(2-chloroethyl)sulphide, HD; Lung; MTT; Histopathology; Toxicology, **100**, 39

Tissue distribution

Aging; Rats; Aluminum; Urinary excretion, **116**, 1

Kinetics; Germanium, **132**, 147

Rats; Chelating agents; Aluminum; Aging; Urinary excretion, **137**, 161

Subcellular fractionation; Covalent binding; Acetaminophen-binding proteins, **109**, 85

Tissue plasminogen activator

Fibroblasts; Fibrinolysis; Vascular smooth muscle cells; Lead; Plasminogen activator inhibitor-1, **117**, 153

Fibroblasts; Vascular smooth muscle cells; Cadmium; Plasminogen activator inhibitor type-1, **106**, 179

Cell division; Carbon tetrachloride; Chlordecone; Age-related toxicity; Resiliency, **111**, 29

Chlordecone; Carbon tetrachloride; Dose-response for tissue repair; Thioacetamide; Maximum tolerated doses; Risk assessment, **105**, 251

Necrosis; Mitosis; Maximally tolerated dose; Colchicine; Carbon tetrachloride; Dose-response, **118**, 181

Tissue Samples

Rats; Immunoassay; Atrazine, **127**, 11

Tissue slices

Interactions; Mixtures; Interspecies, **105**, 285

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Tissue repair

Antimitosis; Colchicine; 1,2-Dichlorobenzene (o-DCB); Ultimate outcome of toxicity, **120**, 79

Cell division; Thioacetamide; Glucose; Palmitic acid; L-carnitine, **111**, 163

TLV, threshold limit value

SCE, sister chromatid exchange; VCM, vinyl chloride monomer; SCGE, single-cell gel electrophoresis; Comet assay; Single-cell gel electrophoresis; DNA damage; Vinyl chloride monomer; Plastics workers; CAA, chloroacetaldehyde; CEO, chlorethylene oxide, **128**, 9

TMA-DPH, 1-(4-(trimethylammonium)-phenyl)-6-phenylhexa-1,3,5-triene

Cell viability; Neurotoxicity; Retinal cells; Vitamin E acetate; Vitamin E succinate; BHT, 2,6-di-tert-butyl-4-methylphenol; BME, Basal Medium of Eagle; CNQX, 6-cyano-7-nitroquinoxaline-2,3-dione; GR, glutathione reductase; GSH, reduced glutathione; GSSG, oxidized glutathione; LDH, lactate dehydrogenase; MK-801, (+)-5-methyl-10,11-dihydro-5*H*-dibenzo(a,d)-cyclohepten-5,10-imine hydrogen maleate; MTT, 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; NMDA, *N*-methyl-D-aspartate; TBA, thiobarbituric acid; TBARS, thiobarbituric acid reactive substances; TCA, tricarboxylic acid, **128**, 113

TNCB

Oxazolone; Contact hypersensitivity; IFNγ-R knockout mouse; IFNγ, **102**, 301

TNF-α

IL-6; Cytokine; NO; H_2O_2; Macrophage; Vomitoxin; IFN-γ; Trichothecene; Mycotoxin; Endotoxin; LPS; RAW 264.7, **125**, 203

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Pesticides; PCA; Passive cutaneous anaphylaxis; Mast cells; Histamine release, **126**, 41

TNF-α, tumor necrosis factor-α

TNFR1, tumor necrosis factor-α receptor 1; TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase, **128**, 151

TNFR1, tumor necrosis factor-α receptor 1

TUNEL, TdT-mediated dUTP-digoxigenin nick end labeling; Methylcholanthrene; Thymus; Apoptosis; T-cell; Ontogeny; AhR, aryl hydrocarbon receptor; DMBA, 7,12-dimethylbenz[a]anthracene; Mϕ, macrophage; MCA, methylcholanthrene; MC540, merocyonine 540; PAH, polycyclic aromatic hydrocarbon; PI, propidium iodide; TCDD, 2,3,7,8-tetrachlorodibenzo-*p*-dioxin; TdT, terminal deoxynucleotide transferase; TNF-α, tumor necrosis factor-α, **128**, 151

TNP

Nickel; Penicillin; MHC; Peptide; Recognition; Receptor, **107**, 141

Tobacco smoke

Arteriosclerotic plaque; Butadiene; Cockerels, **113**, 351

Hemoglobin adducts; 4-Aminobiphenyl; Maternal blood; Fetal blood, **107**, 209

Passive smoking; Lung disease; Protein synthesis; Cell toxicity, **100**, 163

α-Tocopherol

Bilirubin; Cadmium chloride; Oxidative stress; Heme oxygenase; Rat liver, **104**, 141

Dietary; Carbonyl iron; Antioxidant enzymes; Ubiquinols, **124**, 73

Tocopherol acetate

Lead; Type-I iodothyronine 5′; monodeiodinase; Thyroxine; Triiodothyronine; Lipid peroxidation; Antioxidant enzymes, **124**, 203

Tolerance

Hypothermia; Hyperthermia; Organophosphate; Fever; Endotoxin, **121**, 215

Metallothionein; Cytotoxicity; Cell; Cadmium; Zinc, **118**, 85

Sensitization; Cadmium chloride; Step down; Heat shock proteins, **116**, 27

Toluene

Trichloroethylene; Hearing loss; Mixtures; Xylene; Chlorobenzene, **105**, 345

Toluene diisocyanate

Airway; Hyperreactivity; Methacholine; Epithelium; Smooth muscle; Perfused trachea; Guinea-pig; Occupational asthma; Irritant; Capsaicin, **124**, 83

Airway hyperresponsiveness; Tachykinins; Neutral endopeptidase; Guinea pig, **116**, 17

Hyperresponsiveness; Bronchoalveolar lavage; Inflammation, **114**, 91

Oxazolone; Disodium hexachloroplatinate; Beryllium sulphate; Cobalt chloride; Nickel sulphate; Potassium dichromate; Local lymph node assay (LLNA); BALB/c mice, **120**, 65

Toxaphene congeners

Embryotoxicity; Embryo culture, **124**, 153

Progesterone receptors; MCF7 cells; Estrogen receptors; Estrogen bioassay, **138**, 69

Toxic equivalency factors (TEFs)

Risk assessment; 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD); Polychlorinated dibenzofurans; Polychlorinated biphenyls; Polyhalogenated aromatic hydrocarbons, **105**, 391

Toxic gases

Flashover; Aircraft fire safety; Full-scale fire tests; Survivability, **115**, 79

Toxic interactions

Hematotoxicants; PBPK/PD modeling; Physiological pharmacokinetics, **105**, 355

Toxic metal

Environmental pollutant; Exposure assessment; Human hair; Biomarker; Group diagnostics; Environmental epidemiology, **101**, 29

Toxic milk mutant mouse

MT-I overexpressor transgenic mouse; MT-I/MT-II gene knockout mouse; Zinc and copper; Metallothionein, **124**, 1

Toxic Oil Syndrome

Apoptosis; Food-poisoning; Autoimmunity; Eosinophilia-Myalgia Syndrome, **118**, 71

Cis-fatty acids; *Cis*-fatty acid anilides; Reactive oxygen metabolites; Intracellular calcium; Polymorphonuclear leukocytes, **104**, 113

Cytokines; Th2-mechanism; Lung tissues, **118**, 61

Reactive oxygen metabolites; Intracellular calcium; *N*-(5-vinyl-1,3-thiazolidin-2-ylidene)phenylamine; Polymorphonuclear leukocytes, **100**, 195

Toxic protein

Boletus satanas; Mushroom; Bolesatine; Inhibition of protein synthesis; SP2/O cells; Thymic lymphosarcoma, **103**, 121

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N-Gas Model; Combustion gases; Genetic toxicology; Polyurethane foam, **115**, 89

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Arsenic; Cadmium; Sequence of exposure; Rat, **116**, 89

Developmental stage; Chemical exposure; Unborn; Children; Risk assessment; Variability, **111**, 15

Expert systems; Artificial intelligence; Computer systems; QSAR, **119**, 213

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Liver damage; N-acetylcysteine; Cimetidine; Paracetamol; Glutathione, **121**, 223

Naphthalene; 1-Naphthol; Naphthalene 1; 2-epoxide; Naphthoquinones; CYP2E1, **114**, 233

Nickel; Carcinogenesis; Mice, **107**, 131

Non-human primates; Humanized antibody; Interleukin-6 receptor; Kinetics; Immunogenicity, **122**, 163

Opioids; Anaesthetic-like; Tetrahymena pyriformis; Hydrophobicity; Partition coefficient, **117**, 35

Phenobarbital; Metabolism; Hamster; Cytochrome P-450; Triphenyltin, **137**, 151

Potassium ion channel; Dendrotoxin; Apamin; Rat, **104**, 47

Risk assessment; Chemical mixtures, **105**, 387

Selenite; Metabolism; Absorption; Hepatocytes, **100**, 151

Smoke; Fires; Aircraft; Behaviour; Tenability, **115**, 25

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Waste sites

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Yam flour

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